SOCIAL SCIENCE

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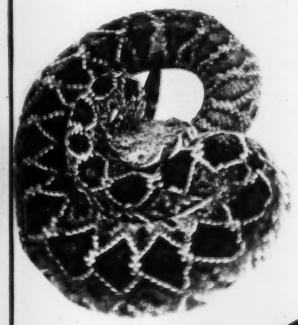
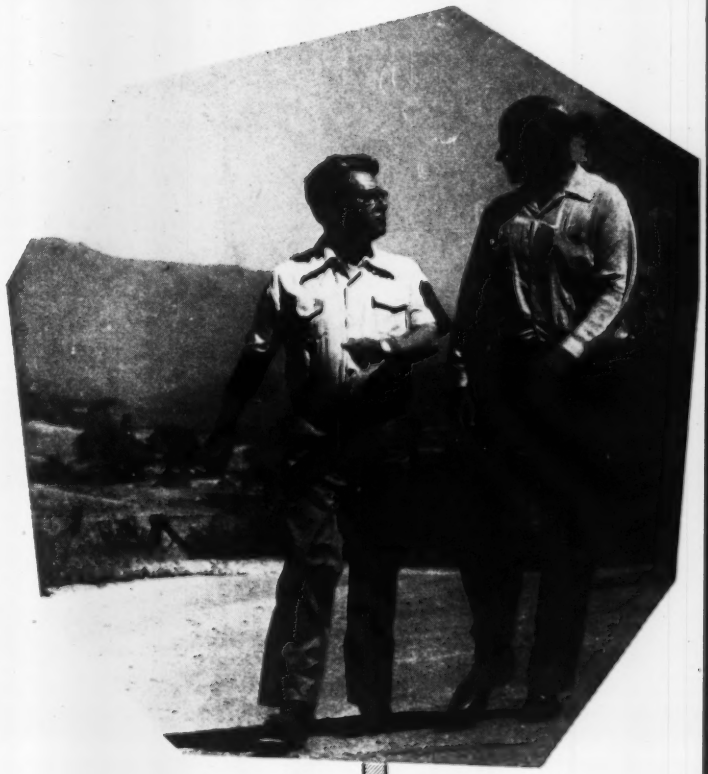
POLICE

JULY
AUGUST
1958





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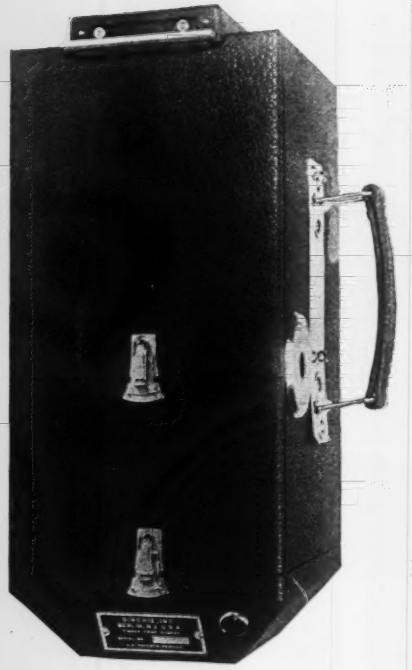

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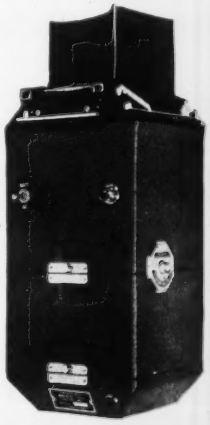

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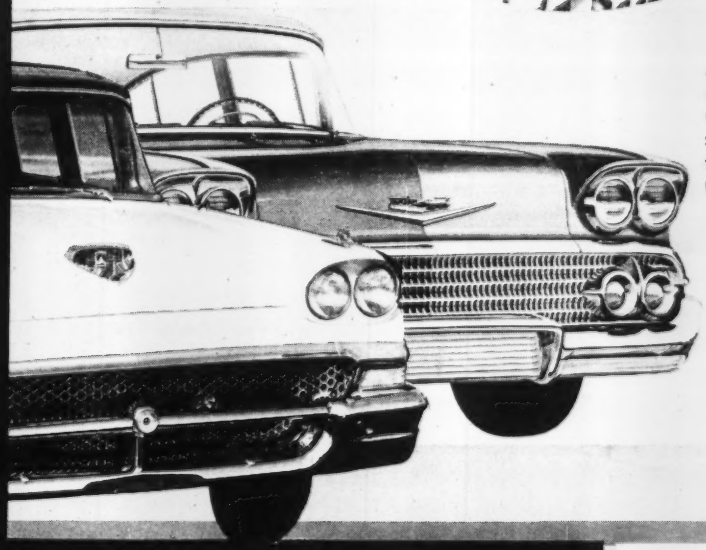

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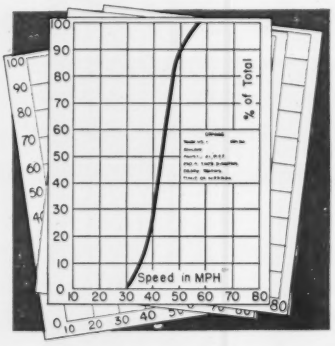

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IN CASE YOU'RE TRAFFIC MINDED. Original articles and timely information about our Number 1 problem. See page 46.

POLYGRAPH AND INTERROGATION. Research developments, new techniques, procedures, and related subjects concerned with interrogation. See page 40.

NEWS AND ANNOUNCEMENTS of interest to all law enforcement personnel. Including a preview of new products, techniques, and materials for use in law-enforcement. See page 63.

STATISTICS FOR POLICE EFFICIENCY. A new section providing much-needed information concerning statistics as a tool of management. See page 60.

Cover Picture

SUMMER! Vacations! Travel! More work for the law enforcement officer. New problems! New techniques! New answers! Now for the question . . . "Am I ready to do my bit?"

POLICE is published bi-monthly by Charles C Thomas, Publisher, 301-327 E. Lawrence Avenue, Springfield, Illinois, U. S. A. Published simultaneously in the British Commonwealth of Nations by Blackwell Scientific Publications, Ltd., Oxford, England, and in Canada by the Ryerson Press, Toronto, Canada. Printed at 1201-05 Bluff Street, Fulton, Missouri. Annual subscription price: In the United States of America, U. S. Possessions, Pan-American Union, and Spain, $3.00; Canada, $3.25; other foreign countries, $3.50. Single copies, 75 cents, postpaid. Copyright, 1958, by Charles C Thomas, Publisher. All reproduction rights reserved. Entered as Second-Class Matter, December 7, 1956, at the post office at Fulton, Missouri, under the Act of March 3, 1879. Additional entry at Springfield, Illinois. Printed in U. S. A.

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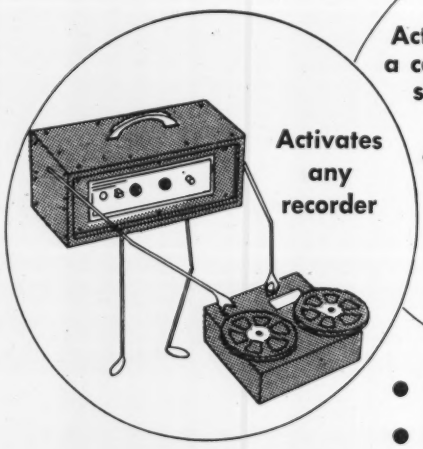

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The One-Man Patrol Car

By Richard T. Runyan and F. Samuel Ostertag

EDITOR'S NOTE: *It has been said that the individual patrolman is society's first line of defense against crime and the criminal. Geared to that proposition, it is an important part of* JOURNAL *policy to make available through its pages information of direct interest and concern to the individual line officer on beat patrol. Presented below is the first of a series of eleven articles in consecutive issues of* POLICE *dealing with the techniques of ONE-MAN PATROL CAR OPERATION. They are based upon a series of training bulletins developed by the Police Department of Corpus Christi, Texas, implementing its conversion to the one-man patrol car system.*

ABOUT THE AUTHORS—*Chief Runyan began his service with the police in Corpus Christi as a patrolman in 1940, moving up the promotional ladder through the ranks of Sergeant and Lieutenant to become Chief of Police in 1953. He is a graduate of the long-term course at Northwestern University Traffic Institute, the 58th session of the FBI National Police Academy and in addition to his other duties serves as a Traffic Instructor at Del Mar Junior College in Corpus Christi. His preparation has included virtually all of the courses on various phases of municipal administration offered by the International City Managers' Association. Chief Runyan's interests cover a broad span, including membership on a number of committees at the state and local levels concerned with police service. He is Third Vice President of the Texas Police Officers Association.*

Mr. Ostertag received the B.A. in political science from the University of Wichita and the M.A. in public administration from the University of Minnesota. He was a research fellow with the League of Minnesota Municipalities and the Minnesota Municipal Reference Bureau. From 1953 to 1956 he served as analyst with the Kansas State Department of Administration where he was responsible for the department's contacts with the Prisons, Reformatory and also with the State Highway Patrol and Kansas Bureau of Investigation, reviewing their operations and presenting their programs to the Governor and Legislature. He also served as staff aide to the Governor's Advisory Commission on Prisons. He became Assistant City Manager in Corpus Christi in 1956 and heads the Office of Administrative Management with responsibility for personnel, budget preparation, research, public information and property management.

The JOURNAL *expresses its appreciation to City Manager Russell E. McClure of Corpus Christi for his cooperation in making these materials available.*

Address: Chief Richard T. Runyan, Police Department, Corpus Christi, Texas.

Introduction

Training Bulletin No. 1

THE decision to use one-man patrol cars can result in substantial improvements in police service to the community. Improved service, however, will be proportionate to the individual patrolman's understanding of the system and his willingness to adopt new techniques and, in some cases, new attitudes.

This series of training bulletins is designed to make the shift from a two-man or "buddy" system of automobile patrol to a one-man system a smooth one—smooth enough that we neither disturb police personnel nor encourage increased activity on the part of the city's criminal element.

Experience in cities of all sizes, in all parts of the United States, has proved that both the one-man and the two-man patrol unit can be of definite value in a modern police department. However, in a city with a relatively low population density, covering a large geographical area (as does Corpus Christi), the one-man patrol system can offer more service with the same number of men than can be offered by the two-man patrol. The adoption of the one-man patrol will mean better and faster service than the two-man system has been able to provide.

Extra precautions in dangerous situations are required for men working one-man patrols. By adopting such precautions, the caliber of service may be improved without increasing the personal hazard to the men on the police force. These training bulletins will discuss patrol techniques and procedures that will help provide maximum protection to the officer working the one-man patrol.

Obviously, no bulletin or book can be long enough or good enough to cover every situation that may confront the police officer. However, the procedures outlined in this series are offered as a guide to the patrolman and represent the knowledge gained and techniques developed by departments which have used one-man patrol systems for years. These procedures are not, however, to be considered as the only methods of handling the situations described. Undoubtedly, with experience, the division and the individual patrolman will learn which procedures best meet the local situation.

Dispatchers' and Patrolmen's Responsibility for Calls. It is imperative that the person receiving the call obtain as much pertinent information from the caller as is possible within a reasonable length of time. From the facts obtained, the dispatcher must determine whether the call should be handled by one officer in a single patrol, by a two-man unit, or by more than one unit. For example, a call to meet a person (such as a store proprietor or another officer) would usually indicate a situation requiring only police advice, and the dispatcher would

Assistant Chief James H. Avant, Director of Police Training, begins initial training for One-Man Patrol by instructing Sergeants and Commanding Officers in the techniques of One-Man Patrol so that they may in turn conduct class instruction within their own Divisions and for each shift. First row, left to right: Lt. J. O. Casbeer, Capt. C. C. Hagan, Sgt. W. C. Banner, Sgt. Gene Melton, Lt. L. Smith. Second row, left to right: Sgt. H. N. Cox, Lt. W. E. Wilkins, Lt. N. C. Baumann, Sgt. D. E. Bridges, Capt. R. E. Chapman. Third row, left to right: Sgt. S. M. Ward, Sgt. Alex Bullard, and Lt. H. R. Hewlett.

need to send only a single one-man unit. The dispatcher is responsible, however, for evaluating a given problem and for sending an adequate number of men to cope with it.

Personal protection and safety dictate that primary responsibility for the handling of the call must rest with the patrolman answering that call. Regardless of the information that the dispatcher is able to elicit and transmit, the patrolman arriving upon the scene of a disturbance must make his personal evaluation of the situation.

Disturbances requiring more than one man may find the dispatcher sending combinations of one-man and two-man units. However, it is essential that each call be answered, and if only one man is available, he will be dispatched to the scene of the disturbance. The dispatcher will not hesitate to assign accident investigators, motorcycle officers, or others to aid the patrol function.

In the event that two one-man cars are assigned to a call, the patrolman driving the car arriving first at the scene will bear primary responsibility for action taken. The first man will complete the call and make any reports resulting from the call. Those arriving later will assist in the action; and upon its conclusion, return to their respective beats.

An outside-the-scene survey of the situation should be made by the first unit arriving in answer to a call. If it appears that the patrolman may be placing himself in danger by proceeding alone, he should stand by for help if he knows help has already been dispatched. If not, he should call for it.

The request for help should be made before the officer becomes involved in investigative activities, and the officer should stand by for the arrival of that assistance before taking action.

General Considerations. The safety of each police officer is of primary importance to the entire division. One-man patrol units will rely heavily upon the screening of calls by the dispatcher. Unfortunately, however, many persons calling the police station are in an extreme state of excitability. Sometimes the information given by callers is incomplete or inaccurate. Thus, the officer in a one-man car must also screen his own calls, and he must be conservative in screening them. He must suspect danger whenever there is the slightest reason to suspect it.

Assistance should be requested freely and in every instance when the officer has cause to believe he needs, or may need, assistance. Safety principles are as applicable to difficulties arising in the field as they are to situations to which the officer has been sent by the dispatcher.

IT IS NOT AN INDICATION OF COWARDICE TO REQUEST ASSISTANCE. IT IS ONLY GOOD COMMON SENSE.

Watch for Training Bulletin No. 2, THE ONE-MAN PATROL CAR—*Investigation and Arrest*—in the next issue of POLICE. ★★★

Miscarriages of Justice

By Erle Stanley Gardner

EDITOR'S NOTE: *Millions of people know of Erle Stanley Gardner as the creator of Perry Mason, Lawyer-Detective extraordinary who has starred in fifty books and has had more words written about him than any other character in fiction—well over 3½ million. Countless more people know Mr. Gardner as the prime mover behind the Court of Last Resort, a unique venture in the annals of criminal investigation.*

Mr. Gardner has steadfastly refused to make an estimate of the number of innocent persons freed because of the activities of the group, because he feels that doing this would tend to place undue emphasis upon what he considers a minor activity. The main purpose of the Court of Last Resort is to arouse public interest in the problem of law enforcement. For that reason, Mr. Gardner would much prefer to emphasize the work the Court of Last Resort has done in impressing upon the citizen the necessity for better law enforcement, and bringing home to the taxpayers the fact that they can't buy good law enforcement in the bargain basement.

Mr. Gardner is intensely interested in bringing the whole crime problem to the attention of men and women everywhere, and he has traveled throughout this country and Europe studying the latest developments in scientific methods of detection. He was asked to sit in on the founding of a civic group in Texas, The Texas Law Enforcement Foundation, an outstanding example of what can happen when an informed citizenry takes action. It consists of a group of businessmen organized by John Ben Shepperd, Attorney General, for the purpose of educating the public in its duties and responsibilities in the field of law enforcement.

The Academy for Scientific Interrogation, of which Erle Stanley Gardner is a member, is grateful to him for contributing his time and talent in writing the accompanying article, MISCARRIAGES OF JUSTICE, *for the P. & I. Section of* POLICE. *Two of Mr. Gardner's associates on the Court of Last Resort are past-presidents of the Academy for Scientific Interrogation, Dr. LeMoyne Snyder and Alex Gregory. All are truly "Crusaders for the Police" and "Champions of Justice."*

PEOPLE are inclined to get causes all mixed up with effects and vice versa.

Take, for instance, the congestion in our courts. The average citizen blames the lawyers for the delays. He blames the courts. He blames everyone except himself.

Actually there is only one real cause of congested court calendars, of delays in trials, of justice which hangs fire for long periods of time.

That cause is perjury.

Perjury is committed not by attorneys but by clients.

If we could eliminate all perjury from our cases, if the witness who got on the stand and swore to tell the truth, the whole truth and nothing but the truth were to do what he promised to do, justice would be speeded up, courts would be able to render uniformly just decisions, and the bench and bar would have enhanced respect in the minds of the American people.

Judges aren't infallible. Juries aren't infallible. Quite frequently when there is a conflict of testimony the decision goes to the wrong party.

If that wrongful decision is in the field of criminal law, we refer to it as a miscarriage of justice.

It is surprising how many people think of a miscarriage of justice as referring only to the innocent man who has been wrongfully convicted. Actually it is just as great a miscarriage of justice when a guilty man has been wrongfully acquitted.

Some witnesses who get on the stand feel obligated to be partisan. They don't want to "weaken" on cross-examination. Therefore, they make their testimony more positive than the situation warrants.

A short time ago an innocent man was convicted in California. It was a case of mistaken identification. A newspaper columnist interviewed one of the witnesses who had made the mistaken identification. The witness admitted that when he had first seen the defendant he had expressed himself with what might well have been construed as a qualification. The columnist asked this witness if he had carried that qualification into his testimony in court and the man had said, "Certainly not. When you get into court you have to be positive."

Unfortunately that is an attitude of a great many witnesses.

It is a purely human failing. No one relishes the idea of having a cross-examining attorney stand up, point sneeringly at him and say, "Oh, so you aren't *positive* even in your own mind!"

So a witness who is *pretty* certain, or even *morally* certain at the time, goes into court and becomes *absolutely* certain.

That is simply an error of judgment and emphasis. On the other side we have deliberate perjury where members of a family will try to "save" an erring member accused of crime. They swear that the accused was home all that night, that he never went out, that they were in a family game of cards and the accused couldn't possibly have committed the crime.

Unfortunately this type of perjury has become so common that now when members of a man's family swear he was home the jurors are inclined to yawn, say, "Oh yeah?" and return a verdict of guilty.

The alibi defense, which should be the most positive of all, has become the weakest defense a person can put up.

Why?

Address: Erle Stanley Gardner, Rancho del Paisano, Temecula, California.

The Board of Investigators of the Court of Last Resort. Left to right: Marshall Houts, Alex Gregory, Dr. LeMoyne Snyder, Harry Steeger, Raymond Schindler, Park Street, Jr., Erle Stanley Gardner.

There again when we find the answer we must blame deliberate perjury.

What would happen if we could eliminate perjury from the courts? And is there any possibility we can do it?

The expanding use of the polygraph is teaching the expert polygraph examiner a great deal about the psychological habits and mannerisms of the liar. The work which is being done in the field of narco-analysis is opening up possibilities which a few years ago would have been considered completely fantastic.

C. B. Hanscom, at the University of Minnesota, has performed some most valuable research work in the field of narco-analysis. It is not at all impossible that within a few years we may learn enough about how to combat perjury so that it can materially be cut down.

For some nine years now I have been privileged to work with a group of associates on ARGOSY's Court of Last Resort, and from these men, who are specialists in their various fields, I have learned a great deal.

The board of investigators consists of: Dr. LeMoyne Snyder, the medicolegal expert, a man who is both a doctor of medicine and an attorney, with the honorary degree of doctor of laws, and author of the book, *Homicide Investigation,* which is the Bible for the careful investigator in the field of homicide; Raymond Schindler, the veteran and justly famous private detective; Alex Gregory, the polygraph examiner who has worked with the so-called lie detector almost from the beginning; Harry Steeger, publisher, expert in the field of public relations and an interested student of penology; Park Street, Chairman of the Texas Law Enforcement Foundation, a well-known trial lawyer of the Southwest; and Marshall Houts, former FBI agent, professor of law, author of *From Evidence to Proof* as well as several other books in the field of crime detection.

Personally I am a great believer in trial by jury. I think that twelve men can come as near to getting at the truth of conflicting issues as any forensic device we know of at the present time. However, jurors are not infallible and as a result innocent men are imprisoned and guilty men go free.

Some nine years ago the group of men above mentioned started trying to improve the administration of justice by getting citizens to take a greater interest in what was going on.

In order to arouse citizen interest, we knew that we had to concentrate upon the most dramatic phase of judicial error—the innocent man who had been wrongfully convicted of murder.

So, in order to start our campaign by arousing public attention, we began to publicize the cases of innocent men who had exhausted all of their legal remedies, who were penniless and who had been buried within the cheerless walls of prison.

While we started out with cases in which we devel-

oped new factors indicating there had been a miscarriage of justice, once what we were doing became known, we were deluged with hundreds, in fact thousands, of applications.

That was where Alex Gregory and the polygraph became of the greatest help to us in separating the wheat from the chaff.

Personally, I don't ever want to see the so-called lie detector brought into the courtroom until after we have established and enforced rigid standards of integrity and ability on the part of the examiner, and I am not certain I want to see it even then.

On the other hand, as a laboratory instrument to aid the investigator, the polygraph is of inestimable value.

Many a time Gregory has spent hours examining some man, whose unprepossessing appearance probably had a great deal to do with his conviction, only to announce at the expiration of the examination that he was completely satisfied of the man's innocence.

On the other hand, there have been red-faced occasions when members of the Court of Last Resort investigators, taken in by the glib personality of some convincing actor, thoroughly satisfied of his sincerity, have learned that there can be no doubt the man committed the crime charged.

Once we started out to investigate miscarriages of justice, it became apparent we couldn't ever expect to get to first base unless we could go before the public with a sufficiently convincing presentation to arouse the public's sympathies in the case of the innocent defendant.

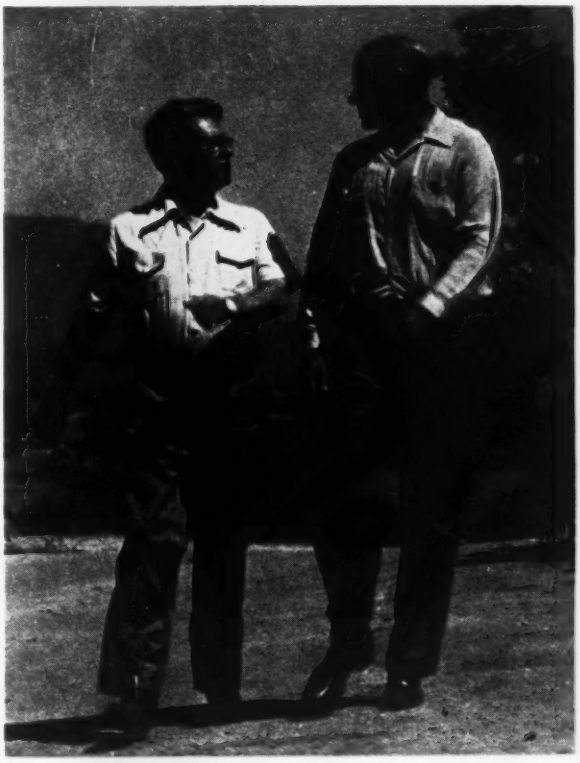
It was for this reason Harry Steeger and I, when we organized our investigating committee, tried to get men whose reputations would mean a great deal in the public mind; men who were sufficiently successful to be able to devote some of their time to serving without compensation; men who had no need for individual publicity so that they wouldn't be accused of trying to crowd into the public limelight in order to enhance their private interests.

It was, of course, virtually impossible to find a group of men who could meet these requirements, but we were remarkably successful all things being considered.

Occasionally, even now, someone who hasn't investigated the situation is apt to come out with the claim that the members of the Court of Last Resort are primarily interested in publicizing themselves, or in promoting the circulation of *Argosy Magazine*.

The Court of Last Resort couldn't exist without *Argosy*. It needs some method of reaching the public. Quite obviously, when we assert that in a government of this kind the public is the real Court of Last Resort we must have some method of reaching the public.

Since we needed a magazine, and since Harry Steeger was one of the original founders of the Court of Last Resort (the idea occurred to us on an exploratory trip into the wilds of Baja California and germinated during a period of several weeks while we were pushing our way into country which up to that time had known but little vehicular traffic) it was only natural that Steeger should have a financial interest in the magazine. In fact, it was essential that he did have.



Erle Stanley Gardner (left) and LeMoyne Snyder (right) walking, talking and arguing.

On the other hand, no other member of our group has a dime's worth of investment in the magazine, and from a financial standpoint doesn't care whether *Argosy* jumps two million in circulation tomorrow, or falls off a million.

We are interested in the administration of justice and improving investigative techniques.

Looking back on it, it is interesting to see how our interests have inevitably carried us into other fields. Having become interested in miscarriages of justice, it wasn't long until we found ourselves exploring police science, penology, probation and parole.

Just as all miscarriages of justice are founded upon perjury, mistaken identification, or wrong guessing on the part of jurors, so we find that the best remedy quite frequently lies in better investigative work.

We can't have better investigative work unitl we get better police, and we can't have better police until we get better compensation.

I am not talking now in terms of the individual officer. We have some very wonderful men who have made a career of law enforcement despite the necessary sacrifices they have been called upon to make in lowered standards

Alex Gregory, lie detector expert of the Court of Last Resort, discussing the operation of his instrument with John Maxwell, who portrays him in the NBC-TV series based on the court's activities. Left to right: Gregory, Maxwell.

of living. I am talking about police organization as a whole.

I think all authorities agree that it takes at least three years before a rookie is turned into a fully competent investigator; an officer who knows what to look for in the field of evidence, how to preserve the evidence he finds, how to examine witnesses, what sort of notes to keep, how to segregate that which is significant from that which is not, and how to testify once he is called into court so that he doesn't fall all over himself the minute he gets on the witness stand.

However, these days the high cost of living is on the march, and it is marching with a constantly accelerating pace.

The rookie who is willing to start out at a rookie's salary with the understanding that there will be increased compensation as he gains seniority, suddenly finds there are factors entering into the situation which he had not anticipated.

One of these factors is the steady, remorseless increase in the cost of living, another is the decreasing value of the dollar, and the third is the law of life itself—the bachelor rookie meets a woman and marries her. The married rookie finds that his family is increasing in numbers and as the children grow older their material needs increase so that gradually the officer himself, his wife, and his children are all called on to make sacrifices which are more than the rookie had originally counted on.

Then comes the day when there is an opportunity to enter some other more lucrative field with the possibility of swift advancement. The temptation of increased pay, better hours, less personal danger, and more opportunities for promotion is apt to overcome a natural aptitude for work in the field of law enforcement.

Too few citizens realize the remarkable efficiency of police investigation despite the economic problems encountered by the individual officer. Police work may lack the brilliance of the fictional detective, but it is founded upon the common horse sense which brings results.

A short time ago I was interviewing a prison inmate in one of the state prisons. I asked him about the crime which had resulted in his incarceration.

He told a simple story of being broke, subjected to financial pressure, and deciding to hold up a service station.

The man and an accomplice had picked out the service station, had "cased" the place thoroughly, had agreed upon a time when the stick-up should be made, and had worked out a plan by which the man with whom I was talking was to make the actual holdup while his accomplice furnished the get-away car.

However, the person driving the get-away car became alarmed and took off. The man who was committing the stick-up found himself left on foot at the scene of the crime. He tried to make a getaway as best he could, running down a dark side street, through an alley, into another side street, down that side street until he came to a vacant lot, crawling into a place of concealment and waiting.

He heard sirens, heard the sounds of police activity incident to a neighborhood search, sat tight while flashlights sent beams penetrating the dark corners.

After a while the police went away. Then it began to rain. The man crouched there in the rain until he had become thoroughly soaked. After an hour or so he felt that the coast was clear. He walked half a mile, picked out a house where he saw lights, rang the bell, explained to the householder that his car had broken down, and asked the householder to call a cab for him.

The householder did so, the criminal stepped in the cab, was taken to the center of town and then noticed a police car swing in behind and follow.

The police car flagged the cab to the curb and then, instead of picking up the driver for some traffic violation, which was what both the driver and his fare had expected, proceeded to interrogate the passenger, asking him to identify himself, tell where he had been, how he got wet, etc., etc.

Soon the officers had enough evidence to warrant searching the passenger, at which time, of course, they found the money which had been taken from the service station.

← *Park Street, Jr.*

I asked the prison inmate what had tipped the police off. He had asked the police the same thing.

The answer was the police hadn't been tipped off. They had used sound, common sense. They had figured out what the stick-up man probably would do. The police decided that having picked up a sizable sum of money in the stick-up he would wait until the search had died down, then go to some house, tell the story of a broken-down car and ask for a taxicab.

Therefore, the police had simply monitored all taxicab calls made from that part of the city. Whenever a cab went out the police made it a point to look over the passenger. When they found one who answered the general description of the holdup man they shook him down.

It was that simple.

Only it wasn't simple. It only seemed simple. The police applied shrewd common sense.

That's typical of the way the police work. Very few detective story writers know anything about it, and the public knows virtually nothing about it.

It is that type of common-sense investigative skill which is needed if we are going to have efficient law enforcement.

We can't get that type of investigative skill unless we have officers who are well-trained, and we can't get well-trained officers unless we have officers who are paid enough to encourage them to stay in their chosen profession after livings costs begin to pile up. ★★★

Motor Vehicle Safety In the Age of Speed and Power

A Biomechanical Approach

By Jacob Kulowski, M.D.

EDITOR'S NOTE: *Medical science is showing in every quarter an increasing interest in the problems associated with motor vehicle traffic. The* JOURNAL *takes pleasure in presenting the second in a series of two articles by Dr. Kulowski dealing with the biomechanical approach to motor vehicle safety. The first article appeared in the May-June issue of* POLICE.

What he has to say carries important implications in terms of driver licensing procedure. The lag between human and automotive progress can, he believes, be closed through driver training and medical screening for driver licensure. This is being done in aviation. It can be achieved on the ground as well. Dr. Kulowski is the author of CRASH INJURIES, *being published by Charles C Thomas, Publisher.*

BIOMECHANICAL IMPLICATIONS OF VEHICULAR SITTING POSTURE

IT is necessary to more specifically relate human linkages and biomechanical stress raisers to the seated rider. If this brings to mind a picture of static relaxation and comfort, perhaps the world wide differences in this kind of posture will help to dispel it. The ultimate in seating perfection, motor wise, may never be achieved because of the physiological requirements of sitting; the human variables involved; and, the spatial and mechanical variables which modern automotive engineering and design must meet to attain this end. Be that as it may, vehicular seating from the biomechanical point of view also implies the act of going to, getting in, driving and controlling, getting out, and going away from the vehicle in question. Truly, then, the human element links the external and internal automotive environments as nothing else does. The whole field of physical fitness is thereby raised to the forefront of clinical, social, and economic attraction as it relates to motor vehicle accidents, injuries, and residual complications. It begins and ends in the seated figure, the crux of which is derived from this unstable position. A characteristic which is extraordinarily multiplied during crash decelerations; albeit it is merely an extension of the basic labile seated posture of the human body. In other words, vehicular seating is fundamentally dynamic from the standpoint of biomechanics.

Stated differently, this means that active vehicular occupancy—driver control—calls for a considerable amount of pivoting action; muscular effort, and muscular coordination. These are normally activated through intrinsic mechanisms. On the other hand, the bodily responses during accidents is largely inertial or passively induced, until they are effectively stopped by contact or impact with external objects. This is a kind of extrinsically induced biomechanics. The first is subjective; the second objective. The only controlling factor available for either case is the safety restraint or barrier, i.e., the safety belt and harness.

Superficially, the act of sitting calls for pivoting action at the hips and knees. There is more to it than that. There is an anterior rotation of the pelvis also. This must be compensated for by some flattening of the lumbar spine. The greatest demands are upon the lumbar linkages. However, restricted movements at the hips may be compensated by greater action at the lumbar spine and vice versa, up to a certain point. This means that reciprocal compensation operates only for mild to moderate deficiencies. Greater ones have important clinical implications during accidents. In other words, this wonderful biomechanical compensatory mechanism may be detrimental under crash force conditions.

For example, in a linear crash deceleration, the properly restrained rider wearing a safety belt will pivot forward at the hips. With adequate head room in front, he may escape injury altogether. The opposite is true when the normal pivoting action at the hips is interfered with; either through hip defectiveness or improper wearing of the safety belt.

The latter is particularly significant for police officers who are already encumbered with a heavy service belt and accessories. In order to avoid interference with free pivoting action at the hips the lap belt must be worn over the creases of the hip joints up front. If the belt is placed higher up on the abdomen not only will the pivoting action be interfered with, but great "flexion" forces will be transmitted to the lumbar spine. Not infrequently the latter abnormal transmission of force will result in a fracture of one or more vertebrae. The same mechanism operates in the case of one or more stiffened hips from disease. In both cases, mentioned above, instead of energy being dissipated through proper pivoting action at the hips, excessive "flexion" forces are exerted upon and absorbed by the vertebrae. The result of this may be vertebral fracture or fracture dislocation with greater likelihood of injury to the spinal cord and paralysis of the bowels, bladder, and legs. Primary defects of the spine itself also may operate in a manner detrimental to clinical results.

Thus, for example, lumbar arthritis, disc pathology, or even after operations for herniated discs the lumbar

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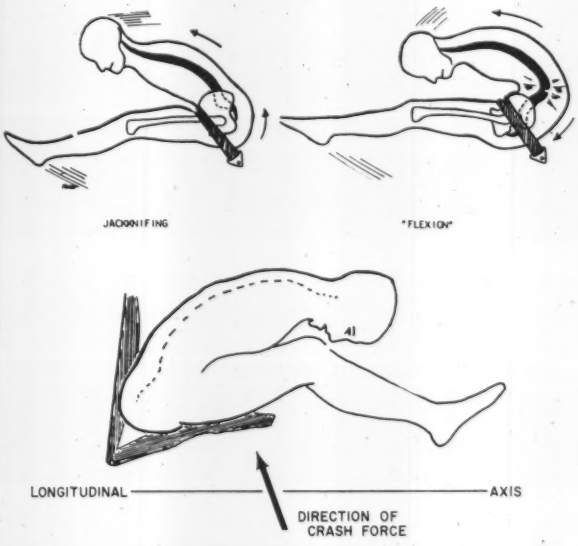
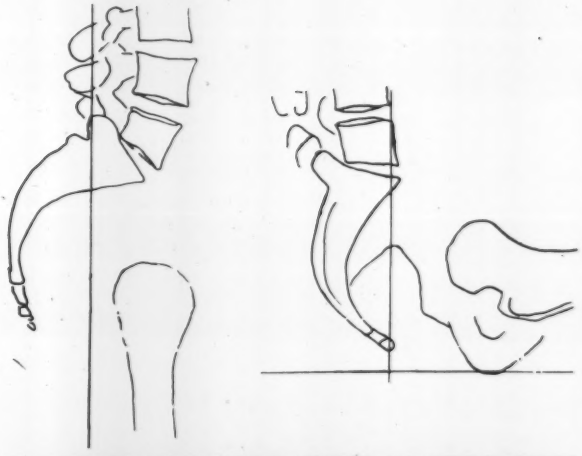
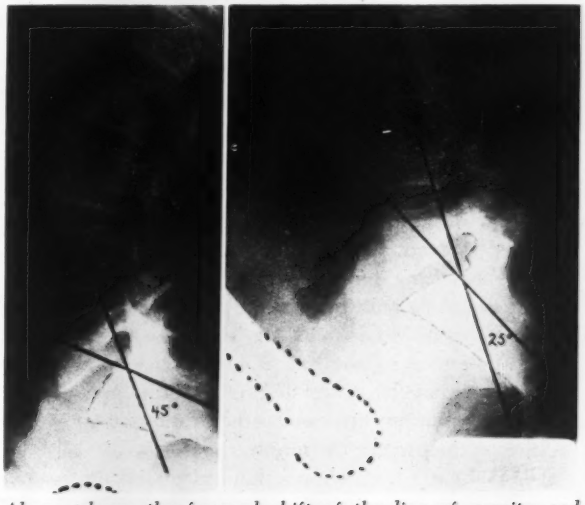
The seated rider within the Newtonian apple to underscore the fact crash injuries are rooted in laws governing inertia, deceleration, and dissipation of energy.



Top drawings distinguish between normal pivoting at the hips or "jackknifing" and abnormal stressful "flexion" in the lumbar spine instead, from DeHaven, Tourin, and Moore: Av-Cir Report, *July 1953. Below, illustrating how free pivoting action averted damage to spine during a helicopter crash, from Hasbrook:* Av-Cir Report, *Feb. 1957.*

linkage does not lend itself readily to the demands made upon it by the requirements of seating. By the same token, additional stresses during accidents tend to cause spinal damage. A common stress-raiser, not mentioned before, in older people is vertebral osteoporosis (atrophy of the bone or thinning). This may lead easily to compression fractures during forward linear decelerations; especially in the middle of the upper back, which is already physiologically curved forwards. Likewise, many other conditions and diseases like diabetes, epilepsy, heart disease, etc., can operate similarly (stress-raiser).

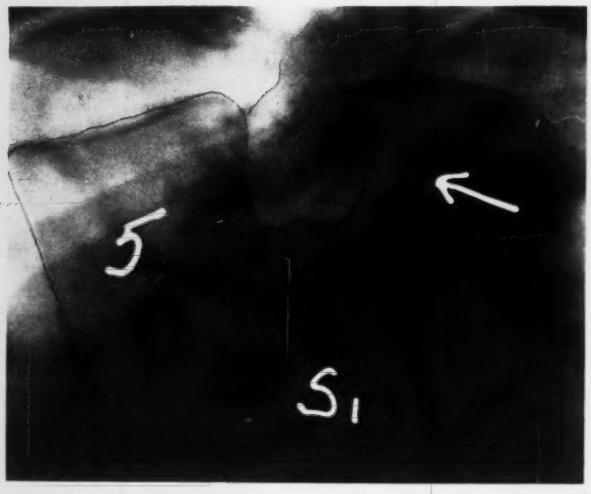




Above, shows the forward shift of the line of gravity and anterior rotation of the pelvis in changing from standing to sitting (from Akerblom: Stockholm, 1948, A-B Nordiska Bokhandeln, *Fig. 35, p. 128 [English translation]). Below, x-rays showing the same thing, author's patient.*

CLASSIFICATION OF CRASH INJURIES ACCORDING TO BODY LINKAGES

The feasibility of equating the Link-Man with his automotive environment derives from the pioneering work of Edward Dye and Wilfred T. Dempster. Dye's famous experiments in kinematics utilizing his "Thin-Man" and "Thick-Man" are too well known to need further comment. Dempster's dynamic anthropometric approach or space-function requirement of operators is basic and should become much more widely known. Actually, the results of these investigators represent a blending of the physical aspects of "human-engineering" and "crash-impact engineering," or biomechanics. I am attempting to adapt their models of the Link-Man to the entire clinical life history of motoring. Thus far, some suggestions have been made with regard to the preimpact and impact situation. That is, certain Link-Man relationships to accidents and injuries have been pointed out. It re-



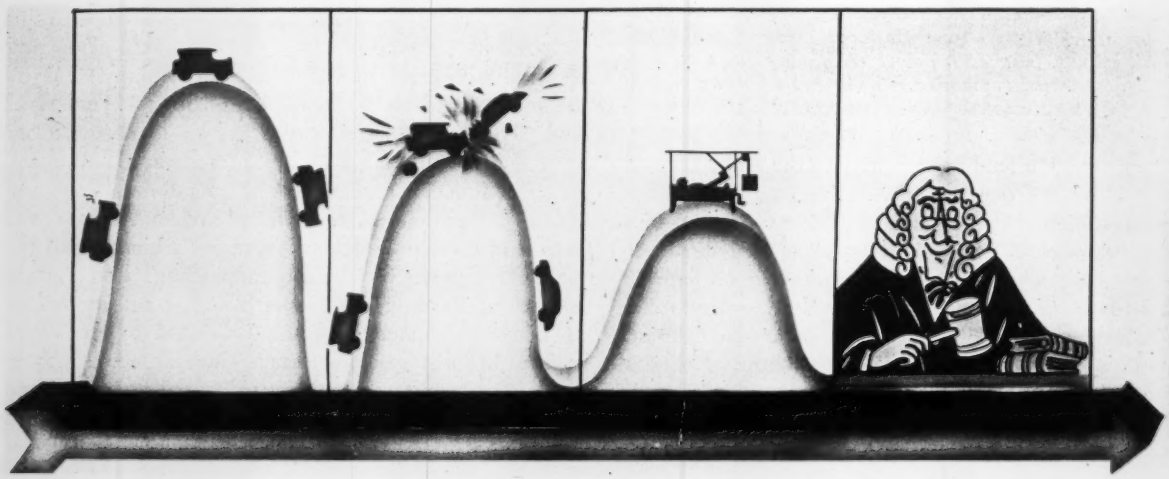
Pathological mechanics at lumbo-sacral linkage due to congenital defect (spondylolisthesis). However, despite this weakness this young driver rolled his racing mount several times and got only a sprained back which he attributed to the protective wearing of his safety belt.

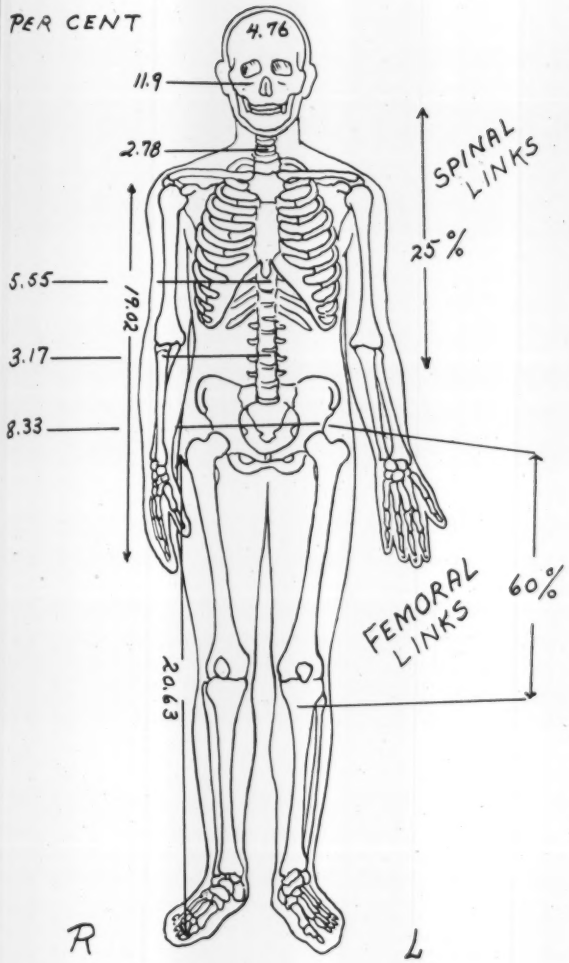
Flail linkage at the elbow about seven years after a severe side-swiping injury which necessitated removal of infected bones and joints. Yet, this man is able to drive a truck with the help of a small brace. Too much laxity at a linkage, like too much stiffness, is detrimental to proper function.

mains now to evaluate injuries received under crash conditions from this standpoint. In other words, categorization of injuries on the basis of human linkages will be presented. This is intended to augment, not bypass or substitute for traditional anatomical classifications or those so painstakingly outlined by Elmer Paul; DeHaven; and Moore and his associates, and others. From this angle a somewhat different picture emerges; one, which may be more helpful to both human and crash-impact engineers, and others interested in the problem of motor vehicle safety.

It has already been shown that spinal linkages—especially those of the neck and low back—are predominantly vulnerable to crash forces in series of chronic disabilities. In order to evaluate lesions in acute casualties according to body linkages, a series was studied in whom only fractures and dislocations were acceptable for statistical

The integrated clinical life history of motoring should take into consideration its four phases: preimpact, impact, salvage, and postimpact medicolegal rehabilitation. This means that medical interests should include standards for licensure; mechanical causes of injury and prophylaxis; first aid, emergency care, and definitive diagnosis and treatment; and, finally, medicolegal complications.





Based on Table at right: The vulnerability of the femoral and parafemoral linkages is quite evident. Chest impacts undoubtedly serve as a buffer for the spine, thus sparing it to a considerable extent. For further explanation the pivots at the hips were taken for orientation: Above this level the spine represents 25% of the skeletal injuries; while below, the femoral ones made up 60%.

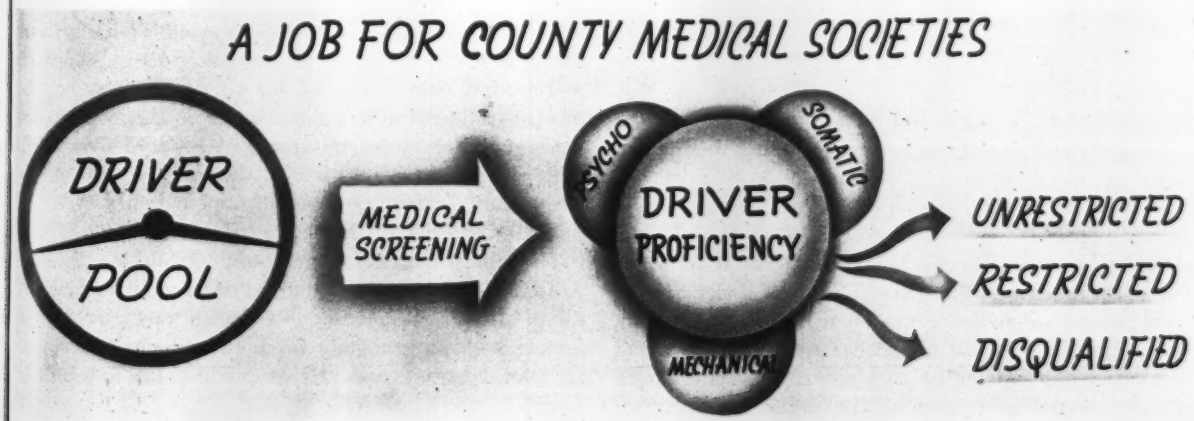
Shattering type of femoral shaft fracture incurred during forcible ejection from a station wagon in a two car collision at fairly high speeds. This adult recovered from multiple injuries elsewhere also, but it took about two years to achieve it. This kind of femoral injury is becoming increasingly more prevalent from highspeed knee-dash and similar impacts. The simple safety belt could avert this, among other things.

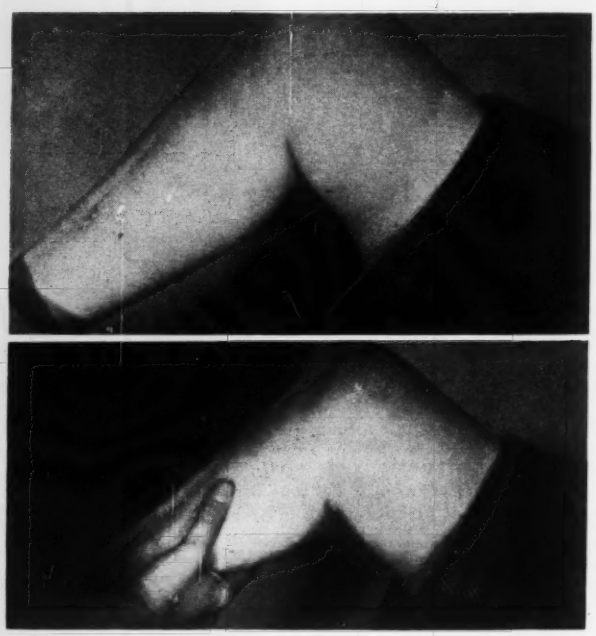
purposes in this regard.* There were 175 patients in this series with a total of 252 fractures and dislocations. Their anatomical distribution is listed below:

Location of Injury	*Per cent*
Head (skull)	4.76
Face	11.90
Neck	2.78
Chest (ribs, sternum)	23.81
Dorsal spine	5.55
Lumbar spine	3.17
Pelvis	8.33
Upper extremity	19.02
Lower extremity	20.63

* These persons had been admitted to the Missouri Methodist Hospital during 1955 and 1956; and were treated by members of the medical and dental staffs, including the writer.

Medical studies regarding driver proficiency must include all of the psycho-somatic-mechanical components which are involved. On the physical basis, perhaps, very few would fall into the disqualified category; many would be restricted, however.





Residual abnormally relaxed knee joints several years after a severe accident in which both cars were traveling at high speeds. This is due to complete rupture of the so-called posterior cruciate ligament within the knee; and, was probably caused by impact just below the knee driving the leg backward in a shearing manner. Patient had other injuries as well—among them a severe brain laceration—which precluded attempts at surgical correction of the knee at the time of accident.

From the standpoint of body linkages 11.50% involved the spine; or, about one fourth of all of these skeletal injuries were above the pelvic level (trunk). Also, about 60% of all lesions involving the lower extremities affected the FEMORAL LINKAGES (41 injuries in all, including: acetabulum 4, fracture dislocation of the hip 3, fracture of the femur—neck 1, trochanter 4, upper one third of shaft 1, middle one third of shaft 12, lower one third of shaft 1—femoral condyles 3, patella 9, and tibial plateau 3).

GENERAL COMMENT ON BIOMECHANICS

The sequence of events in injury producing accidents intersect at and pinpoint the human elements of the problem. An attempt has been made to integrate this most complex component of motoring with the automotive environment. Looking at the human body as a link system having mechanical defects—instead of primary limitations—results in a philosophy of motor vehicle safety somewhat more positive than that held in the past. In other words, one begins to think in terms of variables. Moreover, these variables are subject to control; just as are those of inanimate mechanical origin. The former is largely a medical problem. This is being tackled by the Committee on Medical Aspects of Automobile Injuries and Deaths. The latter is largely an engineering problem which is being tackled from many angles by various authorities. The lag between human and automotive progress can, I believe, be closed through driver training and medical screening for driver licensure. This is being done in aviation. It can be achieved on the ground as well. *It would seem to be a short sighted policy to penalize the automotive industry before every effort has been made to bring up the human standards for drivers.*

With regard to the injuries themselves, the biomechanical point of view focuses attention upon certain non-lethal but greatly disabling types of injuries. In the chronic series these consist of neck and low back so-called sprains for the most part; although even here actual gross skeletal lesions are not infrequently observed. In acute cases injuries of the femoral linkages seem to predominate. Perhaps, not enough attention is being paid to these types of lesions by human and crash impact engineers. It is possible that the real key to lethal injuries is rooted in the more prevalent—albeit less striking—non-lethal ones.

SUMMARY AND CONCLUDING OPINIONS

A biomechanical approach to motor vehicle accidents has been advocated in order to achieve a proper and common background of understanding. In this case a start has been made along this line by the use of the "Link-Man" model and other analogies of mechanics and engineering applicable to him. Several significant implications regarding the solution of the motor vehicle accident problem emerge which deserve to be underscored.

It is becoming increasingly more feasible to reduce the more complex biological factors involved to simpler ideas underlying mechanics. At the same time it must never be forgotten that the problem as a whole is a psychosomatic-mechanical one. Excursions by students into adjacent domains of activity—for example, such as my own efforts into mechanics—are inescapable, and no apologies are needed.

Clinical experience shows that most physical human deficiencies, like arthritis, predominate in the later adult and older age groups; not in teen-agers. Perhaps more attention to the former class regarding driver licensure will bring desired results. At the same time, teeners who can prove their abilities might be given their chance to drive at earlier ages than those set by law today. At the other extreme, it is well known that oldsters with experience can, if they so desire, compensate for most of their physical defects in the act of driving.

There must be a simultaneity of progress along biological and mechanical lines. Medical criticism of automotive safety design is stimulating advances in this area. Manufacturers ought to agitate for improved medical standards for licensure and greater medical interest in this field. ★★★

A Major Police Problem—

By Captain A. T. Nelson and Sergeant H. E. Smith

EDITOR'S NOTE: *The Journal is pleased to present the first of a series of two articles dealing with a major police problem common to all cities and communities regardless of size—the theft of auto parts and accessories, written by Captain A. T. Nelson, Commanding Auto Theft Division of the Los Angeles Police Department and his associate in that Division, Sergeant H. E. Smith. The authors make available for the first time in these articles, methods and procedures for combating theft from vehicles which have proven successful and which can be put to work with important results in every city and community. Captain Nelson and Sergeant Smith are also co-authors of the book,* CAR CLOUTING, THE CRIME, THE CRIMINAL AND THE POLICE *(Charles C Thomas, Publisher), presenting many other techniques and innovations which have proven their worth in reducing losses from theft of auto parts and accessories.*

Captain Nelson has been the Commander of the Auto Theft Division in the Los Angeles Police Department for the past ten years. He is one of the original members and a Past-President of the International Association of Auto Theft Investigators which has active members throughout the United States, Canada, Mexico, Europe, Africa and Australia. Sergeant Smith is an officer with ten years experience in the Los Angeles Police Auto Theft Division. He is regarded as a leading authority in the field of "contingent surveillance," a tactic developed to an unusual degree of success in the Los Angeles Police Department.

AUTO PARTS AND ACCESSORY THEFTS AND THE CONTROL OF THE STOLEN PROPERTY MARKET

THE rapidly growing rate of the theft of automobile accessories throughout the country represents one of the most acute problems facing our law enforcement agencies today. Unfortunately law enforcement in America, which seems to consistently rise to whatever heights are demanded of it in discharging its duty in other areas, has so far failed in meeting the challenge represented by this particular category of crime. The theft of vehicle accessories has become so prevalent throughout the country as to be treated almost as a joke expressed in such terms as "midnight auto supply," etc.

This is not just a problem of Los Angeles or of large cities only. Small town newspapers which list almost every crime reported in the community contain accounts of thefts of vehicle accessories such as auto radios, hub caps, auto heaters, fender skirts, beauty rims, batteries, lights, wheels, etc., in a ratio of almost ten to one with the reports of other crimes. And auto accessories are no longer inexpensive! In large cities the theft of 20 to 30 auto radios, for example, in a single night is not exceptional. Countless people have found it nearly impossible to retain possession of wheel disks or hub caps especially on the later model cars. Many of them no longer even report their losses to their insurance companies, having found that constant repetition soon results in policy cancellation.

This reaction of the insurance companies to the uncontrolled prevalency of the theft of auto accessories (policy cancellation after the first few reported losses) has been followed by many of them experimenting with deductible types of policies. This situation has the end result of placing much of the replacement cost of these stolen accessories upon the general public and from the insurance company standpoint has resulted in declining public relations. Do not be deceived! The police can no longer avoid coordinated action in regard to automobile accessory thefts. The placing of additional costs upon the public and the embarrassing position of the insurance companies in relation to their clients is bound to bring about considerable pressure upon all concerned law enforcement agencies. It is unfortunate that this book cannot contain some concrete national statistics on the tremendous loss to the parts and accessory thief—but there are none available. No one seems to keep adequate statistics; even the insurance companies do not know what *their* loss is as it is compiled under the heading of personal property loss and is not broken down as to type. Inquiries to large insurance clearing houses have resulted in letters which give no figures but estimate their loss as "many millions of dollars every year." Some day someone is going to compile these statistics and peace officers all will be subjected to a rude shock! It is beyond any question, that the net loss to the accessory and parts thief is more than the net loss to the auto thief.

It is interesting to note that in communities where police departments have made a responsible effort to combat the crime of theft from motor vehicle that they have been successful in achieving a measurable reduction in the over-all crime of car boosting or car clouting, while at the same time the percentage of accessory thefts has shown a steady increase. The Berkeley, Calif. Police Department, for example, reports that in 1955 they were able to reduce the crime of car clouting by nearly 40 per cent over the incidents reported in 1954. At the same time, however, the increase in accessory thefts amounted to some 36 per cent.

It is axiomatic that commercial thievery on this scale cannot exist without a regular, easily accessible market for the disposal of the stolen merchandise. It is toward this market that the attention of theft from vehicle investigators is now directed.

Any investigation of the potential market for the parts and accessory thief ordinarily turns up an evident paradox. In many communities the legitimate auto wrecker,

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Photo shows Los Angeles Detectives Howard and Morressey watching as Mr. Bob Yeakel, a Los Angeles new car dealer, launches accessory identification program by marking the hub caps of his stock as a service to his customers.

whose main reason for existence is the sale of used parts and accessories, often finds himself unable to supply a growing demand for merchandise such as auto radios, hub caps, heaters, lights, fender skirts, etc. In many instances he has to resort to contacting wreckers in more sparsely settled areas and having auto accessories shipped to him in order to keep abreast of the demand. The paradox develops when the investigators start taking note of the innumerable independent neighborhood filling stations throughout the city which, obvious to any passerby, suffer from no such shortage and are blatantly displaying for sale this type of merchandise.

Curiosity should then lead the investigators to look further into all phases of the automobile business. They should visit auto repair shops, body and fender shops, auto top and upholstery shops, auto radio repair shops, motor and transmission exchange shops, used car lots and every other business enterprise where used auto parts and accessories are apt to be used or displayed. The previously mentioned shortage, in the majority of cases, is hardly noticed in these businesses. Interrogation in most instances results in rather unsatisfactory accounts of how and from where a good deal of this merchandise was obtained. Curiosity then should lead the officers to ask themselves how it is that all these enterprises, not nominally in the used parts and accessory business, can continually possess a stock of merchandise which the man whose primary business it is finds extremely difficult to obtain. Recognition of the millions of dollars worth of this merchandise lost yearly to the parts and accessory thief provides an obvious answer to this question.

Law enforcement has, as a matter of fact, allowed to continue almost unmolested a gigantic, wide open, unlicensed, unregulated and easily available market for the professional auto parts and auto accessory thief! Here is one instance wherein the law makers have been far ahead of the law enforcement agencies! In almost every community in the nation there are laws under which persons who deal in this sort of merchandise are required to obtain some sort of special permit or license and under which they may be supervised and regulated. If these laws do not apply to the dealer in used auto parts and accessories specifically, he *is* subject to virtually the same type of regulation applicable to pawnshops under the laws governing the general handling of second hand merchandise.

In many communities investigation disclosed the existence of regulations governing dealers in used auto parts and accessories which had never been used and of which the police were unaware! It was found that, many times, large dealers in this kind of merchandise have proper permits and papers and are aware of the regulations governing their business, but that the regulations are almost never enforced. The thousands of small businesses wherein the handling of this type of merchandise is merely an adjunct to their primary purpose very rarely have any permits or papers of any kind and are, more often than not, completely unaware that such is required!

As an aside to the original purpose of this thesis it seems advisable to point out a fact that may be of importance in properly evaluating this situation. Experience in dealing with professional thieves reveals that a large majority of them received their first indoctrination into the pattern of stealing for a living while still young through auto accessory thefts. Teen-age boys usually have an absorbing interest in automobiles as a result of the age in which they live. With this interest directing their attention they find the opportunity for this type of theft is constantly before them. It is a type of theft that can be committed with such ridiculous ease that its commission often starts as a "lark." With this start the youngster suddenly finds an easily available and constant market, even in his own neighborhood no matter where he lives. He finds that he is rarely closely questioned by the buyer and that almost any flimsy story will enable him to sell his merchandise.

There are groups of teen-age automobile enthusiasts who have financed the building up of their "hot rods," the building of club houses, and the acquiring of those club name plates they do dearly like to display on their cars entirely from the money obtained through the theft

Los Angeles Police Officer is shown looking on while Don Donner, public relations man for the So. California Service Station Association, places marks of identification on her auto's hub caps for Gloria Winters, television and motion picture actress.

and sale of wheel discs or auto radios. Thus it is that the insidious lure of such easy money slowly grasps the teen-age boy and detectives deal with him too late—as the professional thief! Is it not possible that the apathy of law enforcement in this field is responsible for the development of theft "for a lark" into a pattern of professional thievery, responsible because it has failed to obliterate or adequately control this too easily accessible market?

One of this country's most successful accessory thieves a few years ago, gave police a complete story of his operations. He provided quite a lengthy list of men whom he considered to be in the same class as himself. His main market was used car lots. He had divided the city into districts and had "salesmen" working the used car lots, one to each district. He told of another thief whose main market was those little auto radio repair shops so often found in conjunction with filling stations and auto repair shops.

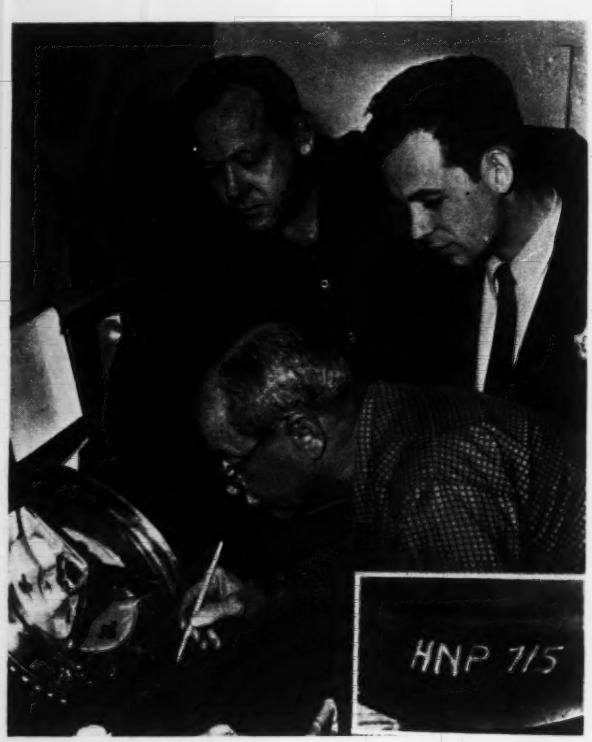
It is no secret that most used car lots (excepting those operating in conjunction with a new car agency wherein the used car business definitely occupies an inferior position) buy almost any type of accessory that comes down the street, providing the price is right. These accessories are used to dress up cars for sale or else are thrown in as inducements to buy. With few exceptions, lots wherein the primary object of business is to sell used cars have lying around a rather extensive supply of used accessories. It goes without saying that none of these lots carry licenses or permits or are regulated as dealers in used auto parts and accessories. The same is true in varying degrees of all of the other phases of business dealing with vehicles which we have mentioned heretofore.

This is not meant as an indictment of the businessmen dealing with some phase of motor vehicles. If an indictment were to be drawn it must be of law enforcement agencies who have allowed such conditions to grow and become prevalent. A businessman is in business to make money. Why should be regard a phase of that business as requiring special responsibilities when it appears, historically, that law enforcement does not regard it as constituting any special problem. Legitimate dealers in used auto parts and accessories are aware of this huge, unregulated fringe business in their type of merchandise and are often bitter at the fact that it functions without the necessary permits and subject to no regulation. They realize, of course, that they cannot successfully compete with this sort of thing and that it is serving many of their potential customers.

Realizing the scope of the problem, police in Los Angeles conducted an experiment which started several years ago in an attempt to control this potential market. A report of that experiment and its result is submitted for the reader's consideration.

Under a city ordinance requiring all those who "buy, sell, exchange, store, or deal in used auto parts or accessories" to obtain a permit from the Police Commission and to subject themselves to the regulations under that permit, Los Angeles police proceeded with several objectives and approaches in mind. The first objective was to see that everyone who might come under the jurisdiction of this ordinance was made to obtain the proper permits at once and that failure to do so would result in arrest and prosecution.

Realizing that many years of indulging in an activity without interference might give rise to misunderstanding and resentment when interference seemed imminent, police used the various methods of communication—newspapers, television, and radio—to explain the problem and to warn of the intended action. In the case of businesses already operating under some other type of permit (such as the used car lots, auto radio repair shops, and vehicle repair shops) letters were sent explaining the extent of the problem, informing them of the law, and asking their cooperation. These letters were followed up by a personal visit from the theft from vehicle investigators in their district. In the case of the used car lots particularly, it was pointed out to them that they and other automobile agencies were often the prime targets of the thief and that they were often, for all practical purposes, in the position of buying back the very merchandise that had been stolen from them. Happily, most of these busi-



Lt. Bob White and Patrolman Dick Harries watch closely as Crime Lab. Supt. Dick Addison of the Palm Springs, Calif., Police Dept. treats hub cap with sulphuric acid raising license numbers ground off by suspect who thought he could prevent identification. Enlargement of the raised numbers and letters is shown in the inset. Restoring numbers on heavy metal such as engine blocks, guns, etc., is not uncommon but accomplishing the trick on 1/16 inch thick chrome caps should be heartening to police departments in persuading car owners to have their hub caps numbered with the electric needle for protection. (Photo courtesy of Police Chief Gus Kettmann, Palm Springs, California.)

ness enterprises were very cooperative. What little lack of cooperation was evident disappeared after some six used car dealers had been arrested and convicted for failing to comply with the existing ordinance. Many of the small handlers of used parts and accessories such as the independent filling station operators stated they handled this type of merchandise more as a convenience for their customers than for a profit and immediately ceased this kind of business activity.

In accordance with the first objective, the second was to see that the regulatory ordinances under these Police Commission permits were rigidly enforced with special attention to the keeping of records and the submission of "buy reports." Officers canvassed their respective geographic divisions and ascertained that everyone handling this kind of merchandise had obtained a permit. They then gave the businessmen a "buy book" wherein a complete record of all transactions involving used parts and accessories were to be recorded. These records included a complete description of the item involved along with a complete identification of the individual from whom it was obtained even down to the license number and description of the car, if any, which was used. These records were to be made in triplicate, one copy remaining in the book as a permanent record open to the inspection of any peace officer, one copy being mailed to the specialized investigators in the division, and one copy going to the Los Angeles Police Department's Central Record Bureau to be checked against the stolen property files in the same manner as the Pawn Shop Records and then made available to all officers on a city-wide basis.

The investigators were to keep personal contact with these businessmen in order to help them with any problems, to gain further information, to supervise them, and to see that the regulating ordinances were adhered to. Special attention was directed to accurate reporting so that a dealer might not deliberately protect thieves and attempt to establish a market for stolen property. Lack of cooperation was met with arrest and prosecution for violation of the regulations, with the attendant result of revocation and suspension of permits.

The dealers were informed that the investigator did not expect them to do his work for him—that is, he did not expect them to conduct a *complete* investigation as to whether or not articles they bought were stolen. The police merely wanted an accurate and complete report of the transactions. It was pointed out that if in the police spot checks they ever came across an article in a dealer's stock which had not been properly reported, he would be arrested and his permit revoked. It was further pointed out that if a stolen item were traced to his shop and it had not been properly recorded, he would be prosecuted for receiving stolen property. Instead of being resentful, the dealers realized that the proper and accurate reports they made actually protected them from a charge of receiving stolen property resulting from an inadvertent purchase of stolen goods traced to their place of business at some later date—a hazard to which all dealers in secondhand merchandise are constantly exposed.

An obvious weakness in the process of convicting thieves after they are apprehended as a result of this reporting system has to do with the receiving of crime reports. Obviously it is difficult indeed to "pin down" a stolen item if the theft of that item was never reported to the police department.

Mindful of the peripheral responsibilities of the investigator as touched upon elsewhere, Los Angeles investigators set out to help remedy these weaknesses. Newspapers, television and radio were once again utilized to alert the public to their loss and the police problem and to point out that if the thefts were not reported the police could not discharge their responsibilities in the public behalf.

The first major result of the inauguration of this program exceeded police expectations. It seemed as though an almost unbelievably productive spring of information

had suddenly been tapped. Usually, the general public, including the businessmen, displays quite a reluctance to inform the police of suspicious events and persons which they observe. Those who are in businesses having to do with motor vehicles are in a position to observe more than their quota of suspicion-arousing individuals. Having established a personal contact with officers who not only were of help in discharging their responsibilities but who were responsible for the supervision and regulation of certain phases of their enterprises, these businessmen, anxious to display their willingness to cooperate, began calling the officers and imparting all sorts of information. Within the first week after the program got under way, a phone call made by a used car dealer to whom one thief had attempted to sell an auto radio led to breaking up a ring of professional accessory thieves. This was heretofore an almost unheard of occurrence. As a matter of fact, the thieves, after their apprehension, stated they had sold numerous accessories to this same establishment over a period of a couple of years.

As the "buy sheets" started coming in and the investigators checked them for "leads," the results were even more startling. These sheets were checked for persons of the same description who had sold several different types of accessories or a number of similar types of accessories in various parts of the city, or who "cropped up" on the buy sheets continuously. These the investigators picked up and questioned. With the background supplied from the "buy sheets" it was not difficult to "break" the suspects' stories and to gain further information. As a result of the leads supplied from the "buy sheet" of just one small auto top and upholstery shop, which also dealt in used auto radios and hub caps, over thirty-five arrests were made in less than one month. These arrests included the apprehension of a group of super market holdup men who had been a thorn in the side of the robbery detectives for several weeks as well as narcotic arrests, burglary arrests, forgery arrests and arrests for numerous other crimes in addition to theft from vehicle.

The program made its debut during a serious wave of thefts of auto radios. In addition to the arrest of many radio thieves, police found that in a short time it became almost impossible to sell an auto radio without an obvious legitimate reason through any of the former outlets anywhere in the city. Apprehended with radios in their possession were thieves who stated they had had them for over a week and could find no one who would buy them. The market thus shut off, the thefts of auto radios dropped to an all-time low. The officers could not but contrast the ease with which this result was obtained with the labor and time expended in former years for a less gratifying outcome.

A further advantage of the new system was displayed when police were led by means of it to a wholesale dealer in used and new automobile radios. This dealer had a large, lucrative and respected business installing radios for the adjustment of insurance claims. The investigators recovered almost 300 stolen radios from his premises. In

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other words, a man's auto radio would be stolen, he would make an insurance claim; the insurance company would send him to this establishment where his old radio was reinstalled! The strength of the "buy sheet" system was displayed when the investigators checked the books and found that reports of acquiring these particular radios were missing from the long list of other transactions. This obviously deliberate omission of the merchandise in question from the "buy reports" was the cornerstone upon which the subsequent prosecution for receiving stolen property was successfully based.

The investigative technique of working from the potential market for the stolen merchandise back toward the apprehension of the thief himself can be very effective. Most communities from time to time go through a wave of thefts of vehicle batteries. Motor vehicle batteries do not ordinarily fall under the jurisdiction of laws and ordinances relating to vehicle parts and accessories. Furthermore, it would appear that a wave of thefts of this type cannot gain its impetus from any other potential market than that which is supplied by junk and salvage yards.

Finding themselves in the midst of a serious wave of theft of this type of merchandise, investigators directed their attention to these potential markets. As has been mentioned before, almost all dealers in second-hand or junk merchandise have some type of laws and ordinances directed toward their regulation and control. In this case the enforcement of these regulations was the responsibility of a separate group of investigators, i.e., the Burglary Division. The theft from vehicle investigators contacted these officers, made them aware of the problem and solicited their special attention and cooperation. The burglary investigators, in checking reports turned in by junk dealers, soon noted that an individual of the same description and using a vehicle bearing the same license plate was regularly selling batteries to various dealers. The coincidence had been previously unnoted because this individual was a licensed junk collector and habitually dealt with these large salvage yards. This information led to the arrest of the individual after which he aided in clearing some 150 theft cases and involved numerous other members of a battery theft ring. Prior to this incident, police had frequently experienced waves of commercial theft of automobile batteries and found them almost impossible to combat. Success on prior occasions had been a result of many long weeks of arduous work utilizing all the resources of the auto theft division, and even then it was with the aid of the "breaks" investigators had come to accept as necessary that they finally achieved the objective. The startling contrast in the simplicity in solving this particular case as opposed to other methods is further indication of the success that can be expected from properly supervising the market for the professional accessory thief. It also is a dramatic example of the need for extending that control to other potential markets and of the need for cooperation and coordination between all officers assigned to their supervision and regulation.

The over-all results of any program must, in the last analysis be the factor by which that program is judged. The special program of market control defined here, in the case of the Los Angeles Police Department, resulted almost immediately in an increase in arrests for thefts from motor vehicle of 51.4%. In the years since this program has been in effect the average increase in arrests for theft from motor vehicles has held at a steady 47.9% above the figures shown prior to the inauguration of this program. The increase in the amount of property recovered and in the number of cases cleared was proportionate. ★★★

POLICE CREDIT UNION

MUNCIE, IND.—Members of the Muncie Police and Fire Department recently formed their own credit union, the Indiana Credit Union League reports. Name of the new group is Muncie Fire and Police Federal Credit Union.

About 185 members are eligible for membership. The credit union is owned and operated entirely by its members under law and government charter. Members place their savings in the credit union and make personal loans to one another at low cost.

There are 25,000 credit unions in the Western Hemisphere with 12 million members. Policemen operate 75 credit unions and firemen, 104 credit unions.

Six O'Clock or Center Hold

An Analysis of Data on Sighting Preferences of 111 Top-Ranking Pistol Shooters

By Maj. Robert A. Ireland, U. S. A.

THE scene was the final session of the Small Arms Firing School for Pistol at the 1956 National Matches, Camp Perry, Ohio. A panel gathered from the nation's top pistol shooters sat in the open behind small tables, facing more than 500 handgunners in the temporary bleachers on Petrarca Range.

For nearly an hour, the panel members had responded to the questions of their audience. There was time for just one more. M/Sgt. Robert Ross, of River Edge, New Jersey, was on his feet.

"Which is more conducive to good scores with the pistol," Ross wanted to know, "a 6 o'clock or a center hold?"

Lt. Col. William A. Hancock, of the All-Army Pistol Team, answered, "There should be little argument—a center hold at 50 yds. and a 6 o'clock hold at 25 yds."

Maj. Ben C. Curtis and CWO O. K. Weinmeister, fellow Army Team members, nodded affirmatively. But Lt. William W. McMillan of the U. S. Marine Corps Team, said he favored just the opposite—a 6 o'clock hold at 50 yds. and a center hold at 25 yds.

Insp. Harry Reeves of the Detroit Police Department, many-time National Pistol Champion, entered the discussion to uphold Lt. Col. Hancock's viewpoint. Whereupon CWO Offutt Pinion of the U. S. Navy Team, disavowed both systems. His preference, he said, was for a center hold at both ranges.

As the debate gathered momentum, Joseph C. White, Jr., of the U. S. Border Patrol Team, said you can't beat a 6 o'clock hold at both ranges and Mrs. Gertrude E. Backstrom, National Women's Pistol Champion, agreed.

Now it was M/Sgt. Huelet L. Benner's turn. "It all depends on the gun," said Sgt. Benner. With the .22, it is a 6 o'clock hold at both ranges. With the .38 and .45 it is a center hold at 50 yds. and a 6 o'clock hold at 25 yds.

Sgt. Benner went on to explain that his 50-yd. center hold with the .38 revolver is "not exact center but about the bottom of the 10-ring," while with the .45 auto it is "just above center," these holds obviating any sight changes between ranges when using midrange ammunition.

On that inconclusive note, the question and answer period came to an end.

When Sgt. Ross asked his question, he had expected a simple categorical answer. Is there a simple answer? Are the opinions of other top-flight pistol shooters as divergent as those of the panel?

In an effort to find out, a questionnaire was prepared and mailed to the 137 place and class award winners in the .22 cal., center-fire, and .45 cal. National Championship Matches held at Camp Perry following the Small Arms Firing School.

The questionnaire consisted of 6 short statements, 3 of which were to be checked by each addressee:

( ) I use a 6 o'clock hold at 50 yds.

( ) I use a center hold at 50 yds.

( ) I use a 6 o'clock hold at 25 yds.

( ) I use a center hold at 25 yds.

( ) I change my sight setting between the 50- and 25-yd. ranges.

( ) I do not change my sight setting between the 50- and 25-yd. ranges.

Each winner also was asked to explain briefly what he considered to be the advantages of his system.

A total of 111 of the 137 place and class award winners responded.

Fig. 1 gives the individual responses to each statement. It does not attempt to relate the response to any statement to the response to any other.

About 50 per cent of all the winners favored a 6 o'clock hold at 50 yds., a figure not impressively higher than the 43 per cent who liked a center hold at 50 yds. At 25 yds., however, 72 per cent said they used a 6 o'clock hold, and only 22 per cent a center hold. Seven winners said they varied their hold between 6 o'clock and center, depending on the gun they happened to be using.

Thirty-eight per cent said they changed their sights between ranges; 44 per cent said they didn't. The remaining 18 per cent said they did or didn't, depending on the gun.

In Fig. 2 the responses are "systemized." Indicated preferences at one range are related to preferences at the other. One conclusion is obvious: the statistics are heavily weighted (47%) in favor of a 6 o'clock-6 o'clock combination at the 50- and 25-yd. ranges respectively. The next most favored system—center hold at 50 yds., 6 o'clock at 25—has only 25 per cent of the total. Third-place runner-up is the center hold at both 50- and 25-yd. ranges, with about 18 per cent for that system. Only 4 shooters out of the 111 responding said they used a 6 o'clock hold at 50 yds. and a center hold at 25 yds. And 7, of course, said they changed their systems from gun to gun.

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In. Fig. 2 the statistics on sight change have been correlated with the systems of holding, since the returns indicated the "no-change" advantage to be an important element in the popularity of the center-6 o'clock combination. The same 7 winners who said they varied their hold with the gun attributed their practice to the advantage of not having to change sights.

Fig. 3 is a summarization of the holds preferred at each range by each place award winner in the three National Championship Matches. Statistically it proves little, but it does afford an interesting insight into the systems which the "top 9" have employed in winning—not necessarily the systems which have made them winners!

The returns were also tallied according to the NRA Outdoor Classifications of the winners responding. The expectation was that preferences in hold might vary among the classes of shooters, leading to the conclusion that the hold or holds favored by the most Masters might be presumed to be the best. However, the returns did not fit this or any other class pattern. About as many Marksmen and Sharpshooters, proportionately, said they employed a given hold at a given range as did Experts and Masters.

Do the results of the survey prove the superiority of one hold or system of holding over any other? The statistical evidence notwithstanting, this appears doubtful.

Many shooters who indicated a preference for the 6 o'clock hold—the odds-on popularity winner—acknowledged their preference was largely the result of training or habit; they had learned that way and had just never changed.

Others who indicated preferences said they were not convinced their systems gave the best results, and they intended to do some experimenting.

Still others, many of them old-timers to the handgun game, said they had already experimented. In most cases, they said they had come to the conclusion that the hold does not matter much. Good scores can be fired using any system, and they

FIGURE 1

	Classification					
	Master	*Expert*	*Sharp-shooter*	*Marks-man*	*Total*	*Percent-age*
I use a 6 o'clock hold at 50 yds.	24	20	7	5	56	50.4
I use a center hold at 50 yds.	15	25	5	3	48	43.3
I use a 6 o'clock hold at 25 yds.	32	32	10	6	80	72.1
I use a center hold at 25 yds.	7	13	2	2	24	21.6
°I vary my hold with the gun used	3	3	1	0	7	6.3
I change my sight setting between the 50- and 25-yd. ranges	18	16	5	3	42	37.8
I do not change my sight setting between the 50- and 25-yd. ranges	15	22	8	4	49	44.2
°I do or do not change my sight setting between the 50- and 25-yd. ranges, depending on the gun used	9	10	0	1	20	18.0
Number of Questionnaires mailed	48	59	19	11	137	100
Number of Responses	42	48	13	8	111	81

° These statements were not included in the questionnaire, but were added on the basis of returns.

FIGURE 2

	Classification						Do You Change Sights Between Ranges?		
	Master	*Expert*	*Sharp-shooter*	*Marks-man*	*Total*	*Percent-age*	*Yes*	*No*	*Depends on gun*
Six o'clock at 50 yds. Six o'clock at 25 yds.	23	18	6	5	52	46.8	26	11	15
Center at 50 yds. Center at 25 yds.	6	11	1	2	20	18.0	12	4	4
Six o'clock at 50 yds. Center at 25 yds.	1	2	1	0	4	3.6	4	0	0
Center at 50 yds. Six o'clock at 25 yds.	9	14	4	1	28	25.2	0	27	1
Varies with gun used	3	3	1	0	7	6.3	0	7	0

frequently prove this by changing their technique.

To carry the subject a step further, Lt. Robert J. Vermeer, registered optometrist on the staff of the U. S. Army Hospital at Aberdeen Proving Ground, Md., was consulted. He was asked whether one hold possesses an inherent optical advantage over the other. All things being equal, Vermeer said, he doubted this is so. While a person's acuteness of vision may certainly be a factor in his ability to focus his sights and to see the target, he didn't see how it can make much difference what sight picture is used. The important thing is for a person with deficient vision or an optical error, such as astigmatism, to have the defect corrected through proper prescription of glasses. That being done, he should be quite on a par with his eagle-eyed brother.

For an assessment of the psychological implications of a given hold, a graduate psychologist was interviewed. He was Lt. Alvin O. Bellak of the staff of the Ordnance School at Aberdeen. Lt. Bellak stated that from the standpoint of his profession, there was very little to contribute. Conceivably in the case of an extremely immature person, a center hold might offer some slight psychological advantage; however, this is almost certainly overshadowed by other elements in the make-up of the individual. In normal persons, he said, it is relatively unimportant psychologically where they aim so long as the results are satisfying.

What conclusions, then, can be drawn?

In general, only this. Very little evidence exists to prove conclusively that any hold or combination of holds possesses any inherent advantage over another. At best it behooves each individual, through trial and error if necessary, to determine what method enables him to plop the greatest number of shots into the center of the bull. Having made that determination, he should stick to the method as long as it produces results. The means are not important if they suffice! ★★★

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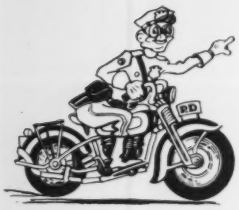
FIGURE 3

Place Award Winners	*Preferred Hold*				*Do You Change Sights Between Ranges?*	
	Six o'clock at 50 yds.	*Center at 50 yds.*	*Six o'clock at 25 yds.*	*Center at 25 yds.*	*Yes*	*No*
.22 Cal. Championship						
Winner David Cartes		x	x			x
Second Huelet L. Benner	x		x			x
Third James E. Clark	x		x		x	
Any Center Fire Championship						
Winner William W. McMillan	x			x	x	
Second David C. Miller	x		x		x	
Third Huelet L. Benner		x	x			x
.45 Cal. Championship						
Winner Huelet L. Benner		x	x			x
Second E. W. Hilden	x		x		x	
Third Presley A. O'Gren	x		x		x	

1957 TRAFFIC FATALITIES

Pedestrian fatalities reached 7,500 and injuries reached 22,200, in 1957. Both these figures were slightly below the '56 totals. Over 34 per cent of the pedestrian deaths resulted from crossing in the middle of the block, a total of 2,600 persons.



Calling All Police

By Rear Adm. H. B. Miller (USN, Ret.)

EDITOR'S NOTE: *Rear Admiral Miller was appointed Director of the White House Conference on Highway Safety and reappointed Director of the continuing President's Committee for Traffic Safety. He served in this position on a voluntary basis until August, 1957, when he resigned to devote full time to private business. Prior to his retirement from the Navy, Admiral Miller was Director of Public Information for the U. S. Navy Department. A former Navy flyer, he is now Director of Public Relations for Pan-American Airways.*

Included on the President's Committee for Traffic Safety are Harlow H. Curtice, President, General Motors Corporation (Chairman of the Committee); William Randolph Hearst, Jr., President, Hearst Consolidated Publications, Inc.; Charles F. McCahill, Senior Vice-President, Cleveland News and Plain Dealer; T. S. Petersen, President, Standard Oil Company of California; Mrs. Raymond Sayre, Past President, Associated Countrywomen of the World; Charles B. Shuman, President, American Farm Bureau Federation; Robert R. Snodgrass, President, Atlas Auto Finance Company; and William G. Stratton, Governor of Illinois. Further information concerning plans for local traffic safety programs may be obtained by addressing the President's Committee for Traffic Safety, 532 Pennsylvania Building, Washington 4, D. C.

MORE than one million Americans have been killed in traffic accidents. In 1956, 40,000 were killed and 1,400,000 were injured. Economic loss amounted to $4¾ billion. The cost of traffic congestion is even greater than the money cost of accidents.

It is estimated that by 1966 there will be approximately 82 million motor vehicles registered in the United States, and 90 million drivers will cover 825 billion miles a year. This would be an increase of about one-fourth in vehicles, one-fifth in drivers, and one-third in mileage over 1956. If the present rate of 6.4 deaths per 100 million miles of travel continues, 53,000 will die in traffic accidents in 1966.

Accidents and congestion both are symptoms of deficiency in the highway transportation system. The rapid increase in number and use of motor vehicles has far outstripped the construction of needed traffic facilities and the development of adequate legal and social controls. The present traffic situation presents a major security problem for the Nation. Unless the motor vehicle can carry a steadily increasing load of people and goods safely and economically in our expanding national economy, a limitation is imposed on the growth of the economy itself. The 1956 Federal-Aid Highway Act promises relief in the highway construction field in a few years, thus reemphasize the need for legal and social controls.

Address: President's Committee for Traffic Safety, 532 Pennsylvania Building, Washington 4, D. C.

BALANCED PROGRAM WILL MEET NEED

What is the solution? Nearly everyone has an opinion. In actuality, there is no single, simple solution to the traffic problem.

Those states and communities with consistently good traffic records have found that the key to success is a well-rounded program emphasizing all phases of traffic-accident prevention the year round. This well-rounded program of proved techniques has been developed over the last 30 years. It is spelled out in the ACTION PROGRAM.

In summary, the Action Program is the recommendations of more than 600 members of 8 technical committees in the fields of:

Accident Records	Laws and Ordinances
Education	Motor Vehicle Administration
Enforcement	Organized Public Support
Engineering	Public Information

In full, the ACTION PROGRAM is presented in 8 basic reports totaling more than 270 pages in the original editions. It was first compiled in 1946, and was revised in 1949. It has been endorsed by the President's Committee for Traffic Safety and all major safety organizations, and repeatedly approved by official delegates of the 48 states.

AT THE 1954 WHITE HOUSE CONFERENCE ON TRAFFIC SAFETY, AN EMINENT AUTHORITY STATED THAT IF WE COULD APPLY WHAT IS KNOWN TO BE NEEDED IN THE STATES AND COMMUNITIES OF THE NATION, TRAFFIC ACCIDENTS COULD BE CUT IN HALF.

Why don't we do it? Why don't we put the Action Program into full effect? Public officials, have primary responsibility for engineering, enforcement and education—the three E's of traffic safety. Yet public officials alone cannot solve the traffic-safety problem, as they are the first to admit. They must have the support and cooperation of the citizens of the State and community if they are to administer an effective program.

However competent public officials may be, and however enlightened their proposals, their programs will fail if they go beyond what the public is ready to accept. In a democracy, no program can succeed without the understanding, assent, and positive support of the general public, who must pay the bills and obey the regulations.

To date, too few of us have been willing to give active support to the steps necessary to put the Action Program into full effect in every State and community. Until we demonstrate that we will support an adequate traffic

safety program, traffic will continue to be a community, State, and national problem.

ORGANIZED CITIZEN ACTION IS NEEDED IN EVERY STATE AND COMMUNITY TO GENERATE INFORMED PUBLIC OPINION IN SUPPORT OF CONSTRUCTIVE OFFICIAL ACTION.

THE PLACE TO BEGIN IS—

A large part of the Nation's traffic problem can only be resolved by action in each community. Although three-fourths of the fatal accidents occur on rural highways where average speeds are higher, two-thirds of the drivers involved are residents of urban areas. About three-fourths of the total accidents that are reported involve residents of urban areas. In the urban areas, accident frequency is higher, although severity is not as great as on the open highway. The community is therefore the place to begin to solve the traffic accident problem.

Organized citizen public-support groups in communities have aided in developing and promoting continuous balanced traffic programs which have brought substantial cuts in the traffic toll, despite multiplication of population, vehicles, and miles traveled. A few examples are:

Cities	*Year Citizens Organized*	*Deaths That Year*	*Deaths 1956*
Cleveland	1919	235 (1926)°	105
Detroit	1941	279	197
Fort Wayne, Ind.	1942	17	12
Lansing, Mich.	1939	13	6
Los Angeles	1938	469	413
Minneapolis	1928	89	47
Oakland, Calif.	1944	92	47
Oklahoma City	1946	27	18
Portland, Oreg.	1940	67	43
Rochester, N. Y.	1914	52 (1956)°	16
St. Joseph, Mo.	1935	14	4
Syracuse, N. Y.	1918	33 (1926)°	13

° Earliest year for which accurate information is available.

PUBLIC OFFICIALS MUST WELCOME SUPPORT

If an effective citizen traffic-safety organization is to be formed or strengthened in your community, two prerequisites must be met:

1. A small key group of top community leaders must be sufficiently motivated to take necessary action.

2. PUBLIC OFFICIALS WITH TRAFFIC RESPONSIBILITIES MUST WANT A MORE EFFECTIVE TRAFFIC PROGRAM AND RECOGNIZE THE NEED FOR A STRONG CITIZEN ORGANIZATION TO HELP ACHIEVE IT.

An organization effort may be initiated by an official, or by any citizen of the community or State. Initial efforts must concentrate on these first two essentials, however. Experience proves that until they are met, little can be accomplished toward the development of a sound, ade-

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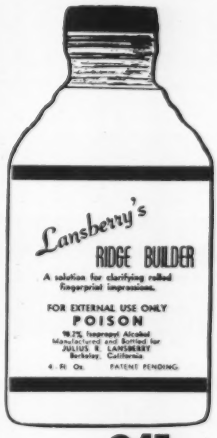

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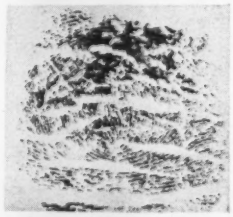
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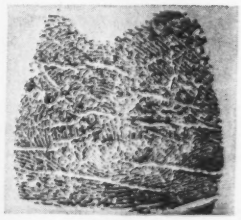
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quately financed citizen safety organization. Professional help will be needed at each step of organization. The President's Committee for Traffic Safety has a list of agencies that can help.

How can officials and community leaders be stimulated to act? A preliminary analysis of the community's traffic-accident experience and an appraisal of its traffic-safety program will help. The analysis and appraisal will show:

How the community's traffic program squares with the Action Program.

How it compares with that of like communities and with accepted standards.

Whether the record shows year by year progress.

The citizen-organization Workbook of the President's Committee for Traffic Safety outlines a suggested analysis and appraisal. The information from the inventories for traffic safety are essential in this analysis and appraisal. If the community has not been reporting in these inventories, it should begin to do so at once. Reporting traffic deaths and injuries to the National Safety Council, incidentally, does not constitute reporting in the inventories. They are a separate, more extensive activity.

TRAFFIC INVENTORIES ARE SAFETY YARDSTICKS

There are three annual traffic-safety inventories which provide the official yardsticks of program status and comprise the bases for periodic reports of the President's Committee for Traffic Safety. All three are services available without charge to traffic officials.

1. The Inventory of Traffic Safety Activities is administered by the National Safety Council.

2. National High School Driver Education Award Program is administered by the Association of Casualty and Surety Companies.

3. National Pedestrian Protection Program is administered by the American Automobile Association and affiliated clubs.

Since committees vary in size, character, needs and resources, there can be no hard and fast rules and no fixed patterns for community traffic-safety organization. But in all instances, good coordination is essential. The programs of all official agencies having responsibilities for traffic safety and facilitation must be coordinated to provide mutual reinforcement. And if a citizen organization is to provide public support for constructive official action, it must be fully informed of official programs and problems. ★★★

DID YOU KNOW—?

Nearly 27 per cent of U.S. drivers involved in 1957 traffic fatalities were under 25 years of age?

Passenger cars were involved in over 78 per cent of all U.S. traffic fatalities in 1957 and in 86 per cent of traffic injuries?

In 1957, there were over 370 persons killed while crossing at an intersection with signal? Remember, cross cautiously!

What Law Enforcement Officers Should Know About Snakes and Their Kin

By Hobart M. Smith and Floyd Boys, M.D.

Departments of Zoology and Health Education, University of Illinois, Urbana

EDITOR'S NOTE: *The range of information that should be at the disposal of the police officer in his daily work is almost unlimited. Knowing what to do in the emergency has made it possible for him to save uncounted lives. The following article written exclusively for the* JOURNAL *by Drs. Smith and Boys is a strong case in point. Dr. Smith received the B.S. degree at Kansas State College, and the M.S. and Ph.D. degrees at the University of Kansas. He worked under a Research Fellowship at the University of Michigan, 1936-37; Research Assistant, Chicago Academy of Science, 1937; W.P.A. Research Assistant, Chicago Natural History Museum, 1938. Receiving a Walter Rathbone Bacon Traveling Scholarship he studied in Mexico under the auspices of the U.S. National Museum from 1938-41. He was an Instructor in Zoology at the University of Rochester, 1941-45; Assistant Professor of Zoology, University of Kansas, 1945; Associate Professor of Wild Life Management at Texas A. & M. College in 1946; Assistant and Associate Professor of Zoology at the University of Illinois since 1947. Dr. Smith has published more than 300 papers in Herpetology, and ten books in his special spheres of interest.*

Dr. Boys received the B.S. degree at Harvard, the M.S. degree at the University of Michigan and M.D. at Northwestern University, the latter degree in 1932. His training and practice have included service with hospitals at Northwestern University and Michigan University; U.S. Army Medical Corps with the rank of Lieutenant; U.S. Navy Medical Corps with the rank of Lieutenant. He was engaged in private medical practice in Indianapolis, Indiana, from 1943-1949 following medical discharge from military service. Since 1949 he has been Associate Professor of Health Education and Medical Officer at the Physical Environment Unit in the Graduate College. He has published 40 professional articles and one professional book, and is Co-Editor of a book of short stories.

Address: Dr. Hobart M. Smith, Department of Zoology, University of Illinois, Urbana, Illinois.

MAYBE police seldom receive calls about snakes, but there is almost nothing they are not asked about at some time or another. In reality any hazard to individual safety may rightfully be thought to lie within the law-enforcement officers' range of responsibilities. Among the public hazards less commonly encountered but nevertheless of grave potential are the native species of venomous animals. A few kinds of snakes and one lizard, as well as a few frogs and toads, are important among native venomous animals, and are almost the only poisonous land-dwelling vertebrates in this country.

The backboned or vertebrate animals in general can be placed in five major groups: the fishes, the amphibians, the reptiles, the birds and the mammals. Numerous fishes have poisonous barbs, and some foreign and marine types are deadly if eaten. In this country the only venomous mammal is the tiny, molelike shrew, the bite of which is sickening but not deadly. No birds are poisonous. The worst offenders, from the point of view of poison, are amphibians and reptiles.

Amphibians include the frogs and toads, and also the salamanders, which look something like lizards or eels but have legs and no scales but instead a smooth, slimy or sticky, moist skin. The important poisonous members of this group are the toads, all recognizable by the warty, often nearly dry skin (Fig. 1). It has long been a popular belief in this country that toads cause warts to grow on the skin where they touch it, but this is completely false. They are, however, deadly poisonous if the skin is eaten. As common as toads are it is astonishing that more children have not been killed by popping one into the mouth. The poison works very rapidly, causing convulsions and, if in sufficient quantity, prompt death. All possible haste in reaching a doctor is of course indicated if anyone exhibits symptoms of convulsion and collapse, regardless of cause, but if the cause is thought to be toad poisoning it is of the utmost importance to so advise the physician.

The red-legged frogs of eastern and western United States are also poisonous and should not be eaten. Likewise certain land salamanders are poisonous if eaten, but neither the salamanders nor the frogs constitute important hazards since they are seldom encountered near the haunts of man.

The reptiles include the snakes, lizards, turtles and alligator-like animals. The turtles and alligators are entirely harmless from the point of view of poison, except that certain land turtles do live on mushrooms poisonous to man but not to them, and if the turtles are eaten in turn they may pass that poison on to man with fatal effects.

Only one lizard, the Gila monster (Fig. 2) of southwestern United States (Arizona, southern Nevada, southern Utah, southwestern New Mexico), is venomous. It has large, strong teeth, all grooved and capable of carrying the poisonous saliva into the wounds made by them. The venom is powerful and can be fatal to man, although fatalities seldom result from the bites largely because the wounds usually bleed so freely that most of the venom is washed out before it has a chance to seep into the flesh.

The really dangerous venomous culprits of the vertebrate world are, however, the snakes. Nineteen

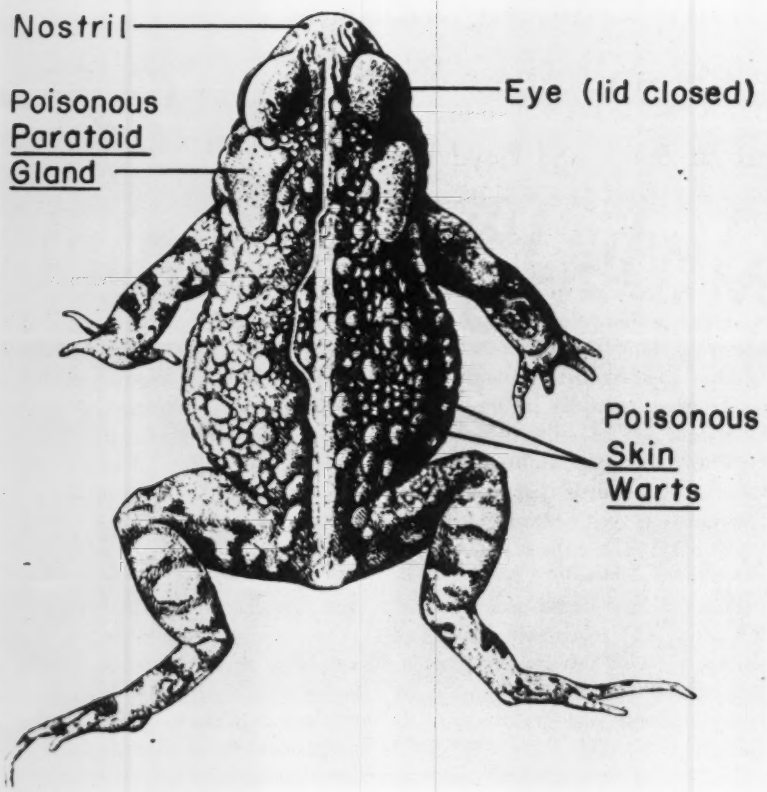


FIGURE 1. *A toad with its characteristic warts and large paratoid gland on the neck. Length of body up to 8 inches.*

species of venomous snakes occur in this country. They are grouped as follows:

Coral snakes (2 species)
Pit Vipers (17 species)
  Rattlesnakes (15 species)
    Helmeted Rattlesnakes (2 species)
    Mailed Rattlesnakes (13 species)
  Moccasins (2 species)
    Cottonmouth moccasin
    Copperhead moccasin

These 19 species comprise about 10 per cent of the kinds of snakes known in this country. In actual abundance, over the entire country, perhaps 1 snake in 35 is venomous, but that proportion is exceeded in some areas, and is not approached in many others. In over half the country only one or two dangerous species exist, and in a few parts none occur (see map, Fig. 3). Even in general areas inhabited by one or more kinds of venomous snakes there are many local regions where they do not occur. Deadly species are known, however, to exist in some part of every state. The real danger is rather sharply limited for the most part to areas "off the beaten trail."

Yet the fear of snakes is common, and an interest in them, largely because of that fear, is likewise almost universal. And, although it is easy to tell if a snake is dangerous, many persons still mistake harmless ones for deadly ones. Of all the snakes killed and brought to an eastern museum for identification under the supposition that they were venomous, 97 per cent proved to be harmless!

A large part of the failures to distinguish harmless from dangerous snakes is due to the mistaken impression that certain well-known but harmless species are really venomous. For example, the wholly innocent Hognose snake is more often than not regarded as dangerous, as reflected by the names "spreading viper," "puff-adder," "blow adder," and "spread head" often given to it. This snake does bluff impressively, but it does not bite and has no venom. Common Watersnakes are frequently mistaken for Cottonmouths or Copperheads. In addition, the widespread, erroneous belief in hoop snakes and racers with deadly stings in the tail compound still further the difficulties of education of the public into the mysterious truths of simple recognition of venomous snakes.

As previously indicated, there are two main types of venomous snakes in the United States: the Coralsnakes and the Pit Vipers. *No others need be feared,* from any standpoint whatever. The others can make a few scratches if they bite, but the bite of a dog or the scratches of an angered cat are much more to be feared than the bite of a non-venomous snake. Identification of the two main types of venomous snakes is simplicity itself. All Coralsnakes have a unique pattern of red, yellow and black rings around body and tail (Fig. 4), and all Pit Vipers have a special deep, heat-detecting pit between eye and nostril (Fig. 5), on each side of head, that is present in no other snakes anywhere. If the entire snake can be examined and is not mutilated, there is no excuse whatever for anyone not knowing at a glance whether it is of a dangerous species or not.

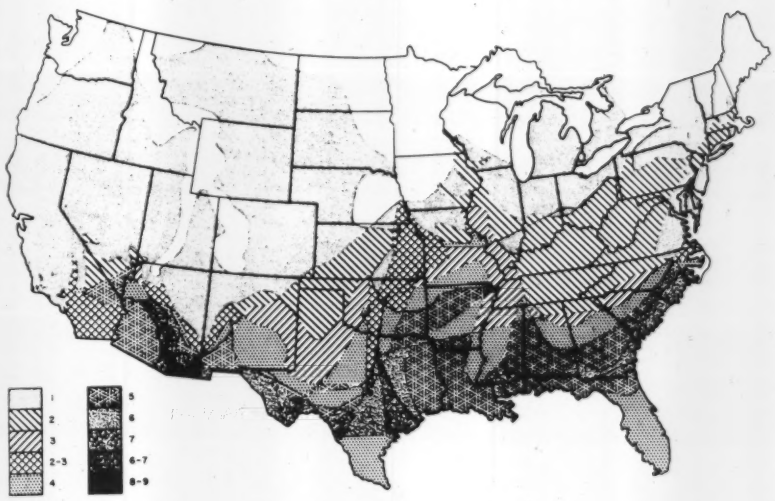
The Coralsnakes are the only snakes in the United States (aside from a few small sand-burrowing species in the extreme southwest) with the red rings bordered by yellow or white rings in turn separated from each other by black, so that the sequence down the body is red-yellow-black-yellow-red-yellow, etc. (see Fig. 4). Harmless mimics have a sequence of red-black-yellow-black-red, etc. It is easy to remember the sequence for Coralsnakes by the simple rhyme

Red on yellow
Kill a fellow—
Red on black
Venom lack.

Coralsnakes occur only in the

FIGURE 2. *A Gila monster, the only species of venomous lizard of the United States. Total length 1½-2½ feet. Insert map shows range. From Bogert and Martin del Campo.*

FIGURE 3. *Abundance of venomous species in the United States. Patterns show number of species in each area, as indicated. Adapted from Stickel.*



southern part of the country (see map). Their venom is extremely potent but casualties are infrequent because the snakes are highly secretive, are abroad mostly at night, and are not particularly pugnacious.

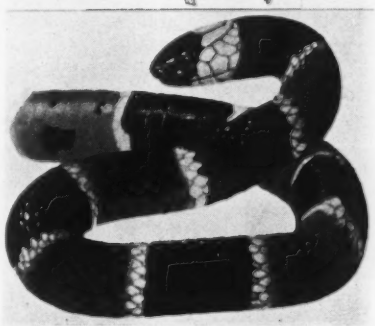
All other venomous snakes of this country are Pit Vipers. The pit on the side of the head in front of the eye is large and unmistakable (see Fig. 5). Cottonmouths, Copperheads and Rattlesnakes all have the pit, a temperature-sensitive organ useful to the snakes in tracking down the warm-blooded animals, such as rats and mice, on which most of them live.

The Moccasins include the Copperhead and Cottonmouth, two different but closely related species of one genus. Both species are restricted to the eastern half of the country, and the Cottonmouth occurs only in the southeastern quarter (see Figs. 6, 7). Both are deadly poisonous but the venom is relatively weak and relatively few deaths have been attributed to these snakes even though more bites are incurred by humans from them than from all other venomous species put together. The primary reason for the high frequency of Moccasin bites is the relative abundance of these snakes, their remarkably protective coloration, and their inability to give a warning of their presence as Rattlesnakes often do.

Moccasins can be recognized by their possession of a facial pit and the absence of a rattle. It is harder to tell a Copperhead from a Cottonmouth, particularly since the young of the latter are marked much like Copperheads. Copperheads have a bright banded pattern throughout life, however (see Fig. 7), whereas mature Cottonmouths are almost uniform black above (see Fig. 6). Copperheads are more often found in upland, rocky areas, whereas Cottonmouths are usually near or in water, but there is a great deal of variation in habitat at different times of the year and at different places; either kind is occasionally found in the habitat characteristic of the other.

Rattlesnakes are easily recognized (see Fig. 8) by the rattle, or, in snakes just born, the blunt, rounded button at the tip of the tail. There are two groups or genera of Rattlesnakes. The Helmeted Rattlesnakes, with 9 large scales forming a sort of armor or helmet on top of the head (see Fig. 9) consist of two species, the Pigmy Rattlesnakes of the gulf states (see Fig. 10), and the some-

FIGURE 4. *A Coralsnake and its harmless mimic. The darkest rings are black, the light ones white or yellow, and the gray rings red. Insert map shows the distribution of the two kinds of Coralsnakes in the United States. Adapted from Schmidt and Stickel.*



Eastern Coralsnake

A Harmless Coralsnake Mimic

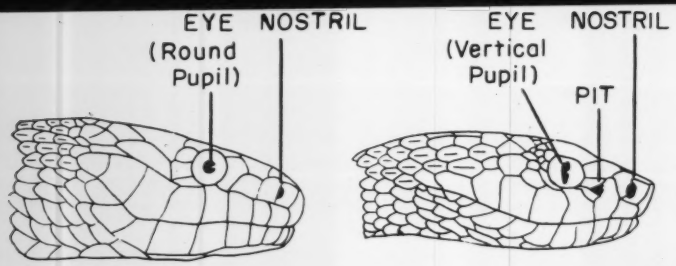


FIGURE 5. (Left) *The head of a harmless snake.* (Right) *The facial pit of a pit viper. From Cope.*

FIGURE 6. *Cottonmouth and range thereof. Map adapted from Stickel. Photo courtesy Larry S. Roberts.*

what larger Massasauga, of the central part of the country (see Fig. 11). The Helmeted Rattlesnakes are relatively small, the Massasauga not exceeding 3 ft. and the Pigmy Rattlesnake not exceeding 2 ft. The Pigmy Rattlesnake is not known ever to have caused a death, and the Massasauga has caused only two deaths so far as known. Both species are dangerous, but even less so than the Moccasins. With reasonably prompt and thorough care a grown person, unless feeble with old age, can expect to survive a bite from either a Moccasin or a Helmeted Rattlesnake.

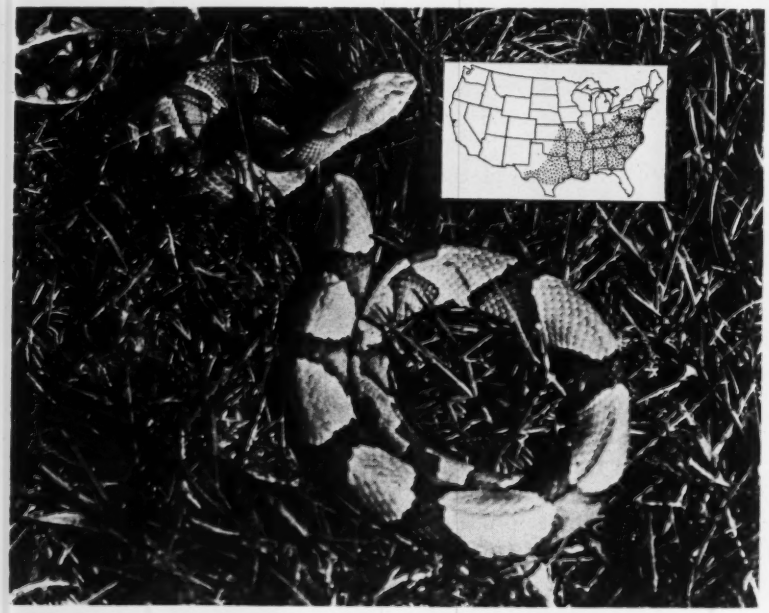


FIGURE 7. *Copperhead and range thereof. Map adapted from Stickel. Photo courtesy E. H. Taylor.*

The truly dangerous snakes are the Mailed Rattlesnakes, which differ from the Helmeted species in having the head covered with numerous small scales (see Fig. 12) forming a sort of mailed armor instead of a plated "helmet." There are 13 species, occurring over almost all the country. In the eastern third of the country only the Timber (Fig. 13) and Eastern Diamondback (Fig. 14) Rattlesnakes occur. The Prairie Rattlesnake (Fig. 15) is widely distributed in the western two-thirds of the country, and the Western Diamondback (Fig. 16) and Mojave (Fig. 17) Rattlesnakes are common in the southwestern quarter. The others are of relatively limited range in the southwest, and some are small, brightly-colored, and restricted to high mountain ranges. The

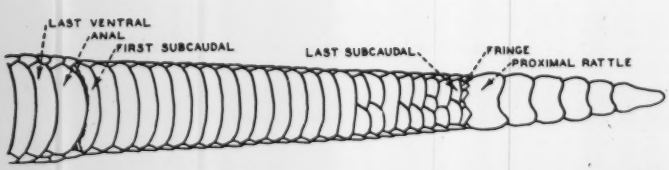


FIGURE 8. *Underside of the tail of a young, mature rattlesnake, showing the rattle complete with the terminal button. Snakes just born have the button alone. From Klauber.*

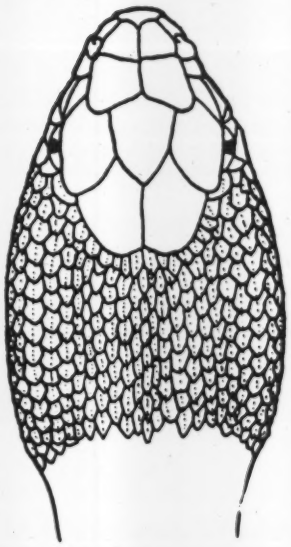


FIGURE 9. *The head of a massasauga, from above, showing the "helmet" of 9 large plates. From Perkins.*

FIGURE 11. *Massasauga and range thereof. From Klauber.*

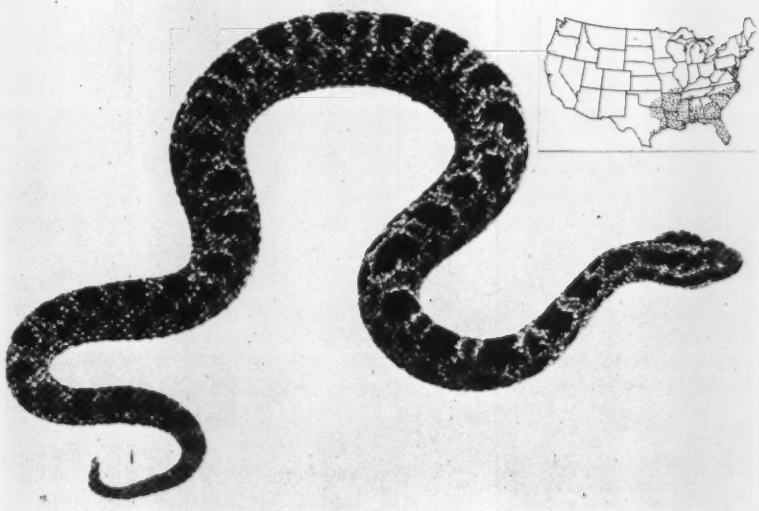


FIGURE 10. *Pigmy rattlesnake and range thereof. From Klauber.*

five mentioned above with the widest ranges are the most deadly of all, and of these the Eastern Diamondback is the most dangerous. In fact, no snake in the world is more dangerous than a large Eastern Diamondback; a full bite from such a snake is more usually fatal than not, even with treatment.

Identification of the different species of Mailed Rattlesnakes is difficult for a novice and is not necessary. In many cases the identity will be evident from the accompanying maps, since in large areas but one species is known. The treatment should be the same regardless of kind.

When the snake can be seen no law officer should have difficulty in determining whether it is venomous or not, and even in determining to which of the 4 main groups or genera it belongs (Coralsnakes, Moccasins, Helmeted or Mailed Rattlesnakes). His real difficulties may come from requests to determine whether a snake that escaped or for other reasons is not at hand was venomous or not. The tooth pattern is not reliable, since the teeth usually pull through the flesh, producing scratches that conceal the tooth pattern. The best criterion is the development within a few minutes of a severe pain at the site of bite, greater than would be expected from the scratches of the teeth alone. In rare, extremely severe bites, when massive doses of venom are injected, the poison acts as a local anesthetic,

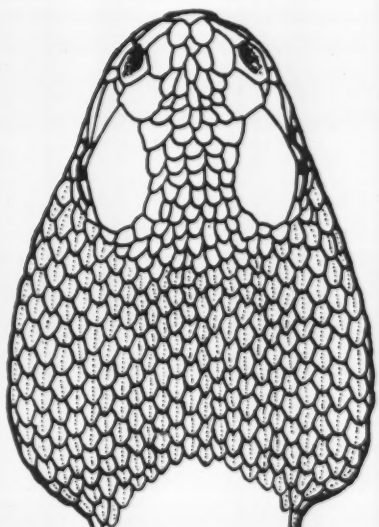


FIGURE 12. *The head of a mailed rattlesnake, showing the small scales covering the head and forming a sort of mailed armor. From Perkins.*

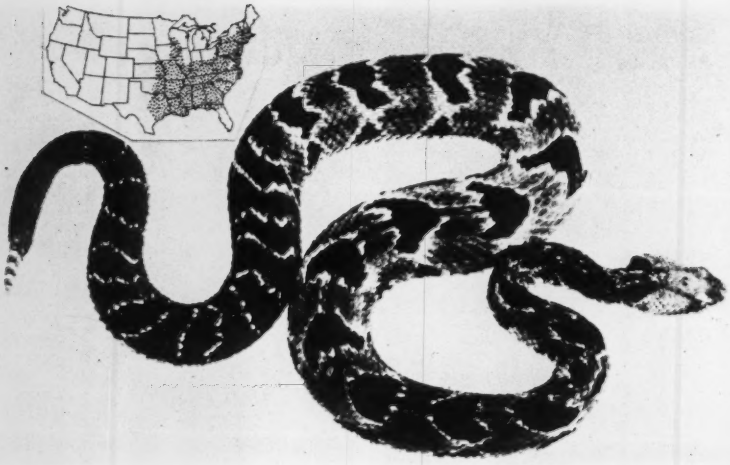


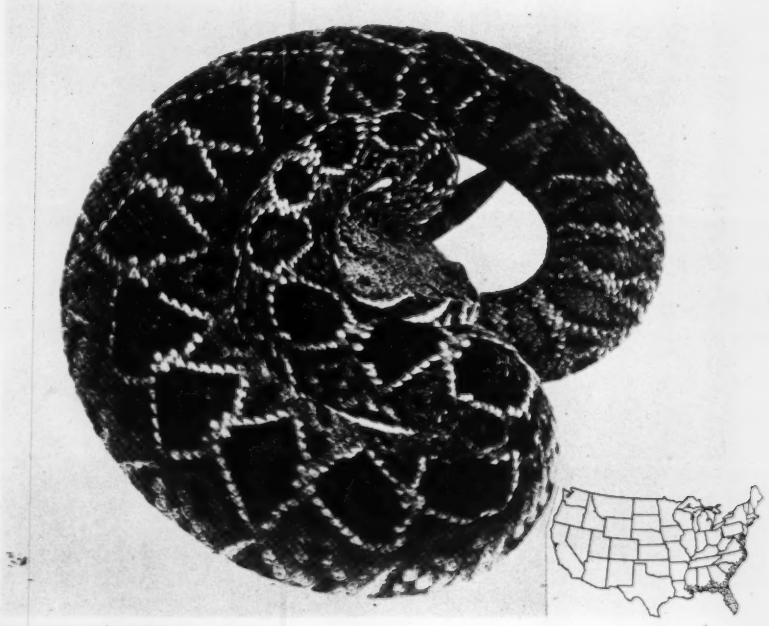
FIGURE 13. *Timber rattlesnake and range thereof. From Klauber.*

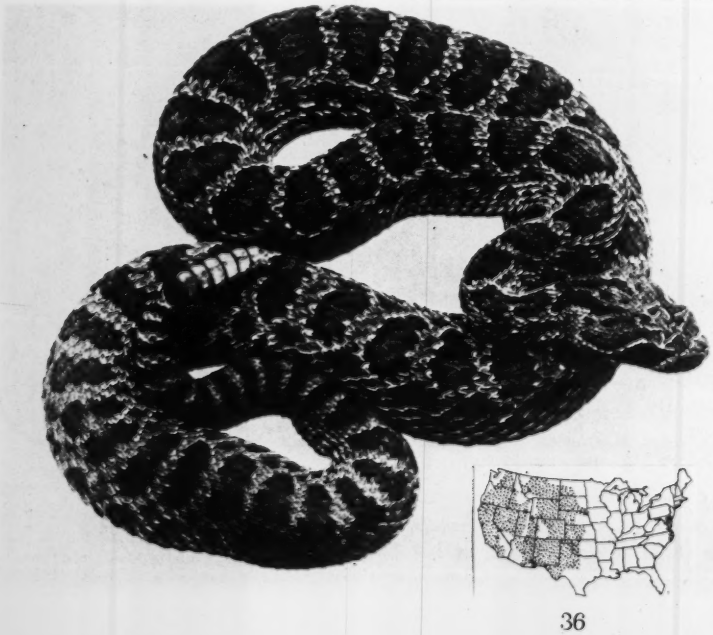
local swelling, although it does produce a violent local pain.

All snakes utilize their venom by injecting it into the bitten flesh through a pair of large, hollow teeth or *fangs* at the front of the mouth (see Fig. 18). The poison is stored in sacs forming a part of two large salivary glands on each side at the rear of the head. A duct leads from

FIGURE 14. *Eastern diamondback and range thereof. From Klauber.*

and the symptoms that soon ensue are of general nature, such as weakness, dizziness, interference with sight, bleeding from nose, gums, fingernails, etc. Characteristically in all bites by Pit Vipers an excruciatingly painful swelling begins near the site of bite, usually within 10 minutes or so but sometimes delayed an hour, and gradually progresses toward the heart. The only exception to this rule occurs when, by rare chance, the venom is injected directly into a blood vessel and is carried at once all over the body. In such cases death may be expected almost at once, even from the bite of a relatively innocuous snake such as the Pigmy Rattlesnake. The Coralsnake venom does not produce





each venom sac to the fang, and when the snake bites it can, if it wishes, squirt the venom through the fangs into the flesh. The fangs in Coralsnakes are fixed in position and relatively small (Fig. 22), whereas the fangs in Pit Vipers are movable, are swung up against the roof of the mouth when the jaws are closed, and can be swung downward when the jaws are opened (see Figs. 18, 20). The fangs of Pit Vipers, being capable of swinging out of the way when the mouth is closed, thus can be much larger than the fixed fangs of Coralsnakes, and indeed they are. The proportion in Vipers

FIGURE 15. *Prairie rattlesnake and range thereof. From Klauber.*

FIGURE 16. *Western (or Texas) diamondback and range thereof. From Klauber.*

is about one-fourth to one-third the head length, whereas in Coralsnakes the fang length is scarcely one-tenth the head length.

The venom is usually simply injected into the microscopic spaces between cells of the flesh, and is not capable of being carried away by the blood vessels. Instead it works its way slowly through the system of spaces between cells, called the lymphatic system, aided in movement primarily by muscular activity on the part of the victim, since contraction of muscles squeezes the spaces between cells and forces the venom along the lymphatic channels. Valves in these channels make

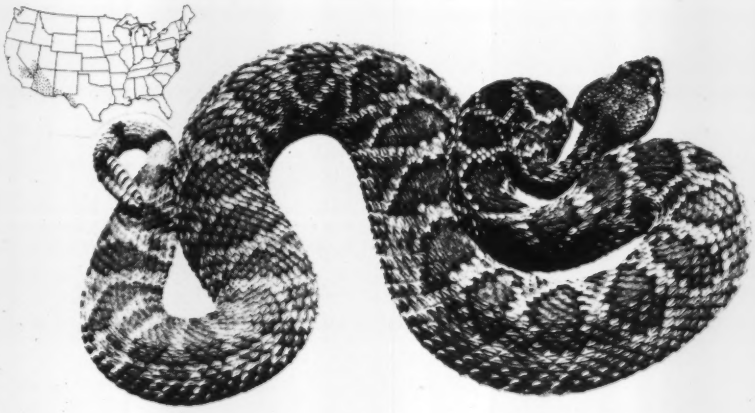


FIGURE 17. *Mojave rattlesnake and range thereof. From Klauber.*

the lymph flow in only one direction, toward the heart.

The *first* duty of any person called to the aid of a snake-bitten person is to determine whether the bite was from a venomous species or not. The proper procedure to follow has already been discussed.

His *second* duty, if the bite is poisonous, is to take steps to secure medical aid for the victim as soon as is humanly possible. Either the victim may be transported to the doctor, or the doctor called to him, with a warning of the fact that the emergency is a snake bite. In either case the utmost care should be used to avoid exertion on the part of the victim, since any activity on his part speeds the flow and action of the venom.

His *third* duty is immediately to apply appropriate first aid measures while awaiting medical aid. There are three essentials in first aid: (1) *tourniquet*, (2) *incision*, and (3) *suction*.

A *tourniquet* should be applied regardless of the proximity of medical aid. It should be made of a rope, rubber tubing, a handkerchief or other cloth, etc., placed a few inches from the site of bite (toward the heart), and twisted tightly enough

FIGURE 18. *Venom apparatus of a pit viper. From Klauber.*

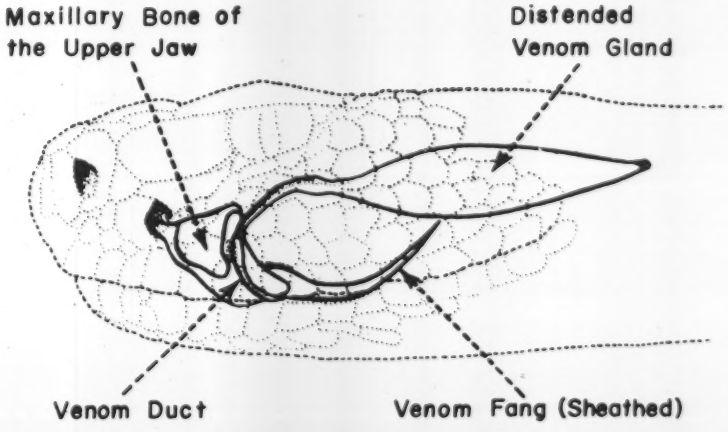


FIGURE 19. *Fangs of a snake like a coralsnake. From Bogert.*

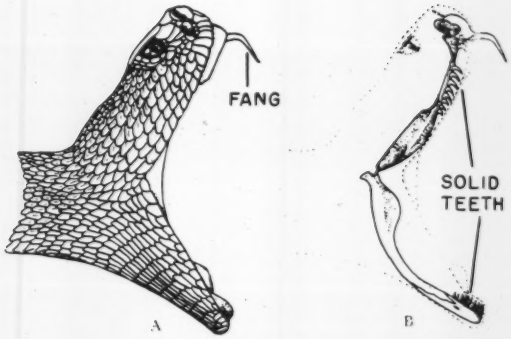


FIGURE 20. *Fangs of a rattlesnake with mouth open. See Figure 18 for relation of fangs with mouth closed. From Pope.*

to just barely lessen the force of the pulse-beat in the arteries between the tourniquet and bite. It is important not to stop or seriously impede blood flow into the bitten area.

For the *incisions* a clean knife or razor should be used to make shallow ($\frac{1}{16}$"), short ($\frac{1}{4}$"), lengthwise cuts in *swollen* tissues above the bite site, and around the circumference of the swollen area with the slits spaced about an inch apart. As the swelling progresses up the limb, successive rings of incisions should be made from time to time (15-30 min.) near the crest of the swelling, keeping the rings about 2-3 inches apart (see Fig. 21). Necessarily the tourniquet should be moved also at intervals to keep just ahead of the swelling.

The *suction* should be applied to the incisions as they are made, sucking each in turn for a few seconds over a period of several minutes. When new incisions are made suction should be applied only to the new ones. Since generally no mechanical suction devices are available, ordinarily suction can best be applied by mouth, if the lips are not chapped and there are no open sores in the mouth. Any other device for suction is satisfactory, but should not exceed in power approximately that of which the mouth is capable. Cheap ($2.00) snakebite kits are available that supply tourniquet, razor and two rubber suction bulbs. The fluid sucked from the incisions should be spit out or discarded, but will cause no harm if swallowed unless raw or bleeding areas such as ulcers are present in the stomach, for the digestive fluids neutralize the venom.

These first aid measures may be of critical importance in recovery of the victim—the difference between life and death. They should thus be carried out with care and thoroughness.

It is urged that no other first aid measures be administered except in the capacity of a licensed physician or nurse. Many homely or even pseudo-scientific remedies have been recommended that may do more harm than good. Application of cold, for example, may be very dangerous. Potassium permanganate, being a poison itself, increases the amount of poison the system must combat. Alcohol and other stimulants merely speed venom flow and absorption. Actually the medical treatment is largely confined to extension of the first aid measures and use of antivenin. If medical aid is unavailable for an excessive length of time, and if antivenin is at hand, many authorities recommend that the first-aider use it at once, carefully following the directions supplied in the drug package (see Fig. 22). Antivenin is made from the blood of horses in which an immunity to snake venom has been developed. Resistance factors in the horse serum are effective in combatting symptoms in humans.

For the law enforcement officer, it would seem his duty to know (1) the main groups of venomous snakes that occur in his territory; (2) how to recognize whether a snake or its bite is poisonous; (3) the proper procedure in securing medical assistance in case the bite is thought to be dangerous; and (4) to know and be able to apply the appropriate basic first aid measures.

For further information on iden-

FIGURE 21. *Application of first aid measures to a case of snake bite (posed). Fang puncture marks indicated at base of thumb.*

ONE COMBINATION PACKAGE
PKG. 62A138
ANTIVENIN (CROTALIDAE) POLYVALENT
(North and South American Antisnakebite Serum)
Wyeth
For neutralization of the venoms of North American rattlesnakes and moccasins—Crotalus, Agkistrodon and Sistrurus; and the venoms of the crotaline species of South America—as the fer-de-lance (Bothrops atrox), and the tropical rattlesnake (Crotalus terrificus).
This package includes one vacuum vial to yield 10 cc. of serum—to be used immediately after reconstitution—(with preservative: phenol 0.25% and sodium-ethyl-mercuri-thiosalicylate 1:20,000); one syringe containing 10 cc. of pyrogen-free, sterile distilled water (with preservative: phenylmercuric nitrate 1:100,000); one applicator vial of Iodine Solution, N.F.; one 1 cc. vial of Normal Horse Serum (diluted 1:10) as test and desensitizing material and one sterile, double-end needle.
See enclosed directions.
U.S. Govt. License No. 144
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THIS PACKAGE IS NOT RETURNABLE FOR EXCHANGE OR CREDIT
LABORATORIES INC.
MARIETTA, PA.
POLYVALENT
POLIVALENTE
DISTILLED WATER
AQUA DESTILLADA
1
2
3
4
5
6

FIGURE 22. *The antivenin kit.*

tification of snakes see Schmidt and Davis, 1943, *Field Book of Snakes* published by G. P. Putnam and Sons; and for additional details on all other aspects of venomous snake bites—their recognition and treatment—see Boys and Smith, 1958, *Poisonous Amphibians and Reptiles*, published by Charles C Thomas, Publisher. ★★★

The Police Library

By V. A. Leonard, Editor

ITS ORGANIZATION AND ADMINISTRATION

ONE of the earmarks of a profession is a literature embracing texts, manuals and reference works dealing with the tested principles and procedures for the successful conduct of affairs in its particular field of endeavor. In recent years a rather amazing number of books have been published in the American police field with the result that officers, supervisors, and administrators may now have at their disposal an impressive list of texts and reference works concerning the various phases of police service.

Many police departments have established police libraries to support their training operations and to make available to the ambitious police officer the best possible materials for reference and study, and an increasing number of departments are considering the installation of this important facility.

It has been brought to the attention of the JOURNAL that there is a need for information concerning best practice and procedure in the organization and administration of a police library. The operation is relatively simple, but certain precautions are indicated in order to establish the necessary procedural controls over the circulation of books, journals, and other materials. POLICE will publish a feature article on this subject in one of its future issues but in the meantime there are excellent sources of information to which the Chief or his subordinates may turn for direction in setting up an orderly and efficient operation.

The following library supply houses have published general manuals for organizing a small library and these are available free on request to the companies:

Library Bureau,
Remington-Rand, Inc.,
New York 10, New York.

Gaylord Brothers, Inc.,
29 North Aurora Street,
Stockton, California.

These manuals are concerned with the organization and direction of small libraries, and they would prove very helpful with respect to records, supplies, and basic procedures in setting up a police library. Also recommended is *Public Administration Libraries, A Manual of Practice*, which may be obtained from Public Administration Service, 1313 East 60th Street, Chicago, Illinois, Price: $2.50. Suggested also are *Manual of Cataloging and Classification for Small School and Public Libraries*, Fourth Edition, obtainable from H. W. Wilson and Co., New York City, New York; *Simple Library Cataloging*, Fourth Edition, By Susan Grey Akers, American Library Association, Chicago, Illinois; and *List of Subject Headings*—with practical suggestions for the beginner in subject heading work, Seventh Edition, H. W. Wilson and Company, New York City, New York. ★★★

A Thought for All Law Enforcement Officers
Do Unto Others—As If You Were The Others!

ACADEMY FOR SCIENTIFIC INTERROGATION · TRUTH THROUGH SCIENCE

To establish and maintain a standard of ethics and professional qualifications

POLYGRAPH and INTERROGATION

Edited by ROBERT D. STEEL

A Tribute to Leonarde Keeler, 1903–1949

EDITOR'S NOTE: *Typical of the professional gains made by the police during the past quarter century has been the development of instrumental aids to interrogation. Tapping the emotional experience of the individual, the physiological changes that follow in the wake of the deception syndrome offer to the trained examiner data of important diagnostic value.*

The name of Leonarde Keeler is transcribed for all time in the literature of interrogation and deception detection as a major contributor to the development of the polygraph and its associated techniques. It is altogether fitting to revive this factual account of his life and remarkable work.

LEONARDE KEELER was born at Berkeley, California, in 1903, the second in a family of three children. His father was a poet, lecturer and civic leader, and his mother an artist. When he was four, Keeler's mother died and Leonarde and his two sisters spent much of their early life in boarding schools on the East Coast.

When radio was in its infancy, Keeler built his own crystal receiving set. He tinkered with it constantly—built and rebuilt it. During this period he spent many weeks in a hospital because of a serious illness. As soon as he had recovered somewhat, he had his radio set up and managed to have it wired into the rooms of other patients so that they too might enjoy the wonders of the newly-developed radio.

Keeler had a tremendous drive and ambition that led him into many adventuresome projects. During his school days he shipped to Australia on a freighter. He loved mountain climbing and with his boyhood friends, Doc Woolsey and Ralph Brandt, made many trips into the high Sierras in mid-winter. Later on, as one means of earning money for his college education, Leonarde organized parties and took them on mountain climbing expeditions. His attention to detail is found in his advance preparations for these trips and the logs he kept. Before starting out on a trip a schedule was drawn up, provisions needed were estimated down to the last bean, meals were planned, and work was delegated so that the trip would be pleasant and without mishap. During some of these trips, food was cached in designated spots to be used in the mid-winter trips when it was impossible to take much gear. Keeler was a daring climber and discovered a number of uncharted peaks in his climbs.

Much of Keeler's college education was paid for by his own efforts. When he found that rattlesnake venom was in demand for use in making a serum to combat snake bite, he and one of his classmates went out into the hills and captured rattlesnakes which they "milked" of their venom. This was done by holding the snake's head under a forked stick and catching the venom in a container.

Keeler's interest in crime detection and the polygraph was a result of his association with August Vollmer. The elder Keeler was a close friend of August Vollmer, the late Chief of Police of Berkeley, California, outstanding pioneer in the field of scientific crime detection and police administration. During his high-school period, Leonarde had a serious illness of long duration and upon recovery he seemed to be lacking some of his energy and enthusiasm for life. His father took him to visit August Vollmer for the purpose of meeting Captain C. D. Lee, then in charge of the records division, who was doing some work on photography and photo-micrography with reference to crime detection. This meeting did stimulate Leonarde's interest and he made an appointment to return, but in the meantime Chief Vollmer introduced him to Dr. John A. Larson who was conducting a polygraph test on a burglary suspect. From that moment on Keeler's life was dedicated.

Dr. Larson was accompanied by Keeler on visits to several state hospitals where tests were run on patients to discover the reactions of

abnormal and subnormal persons. The first polygraph was rather clumsy and Keeler and Larson discussed the possibility of a portable instrument. Eventually both Larson and Keeler designed portable models. Keeler's instrument was developed commercially and sold during his lifetime to only law enforcement agencies or for medical uses with the exception of two or three machines which were leased for personnel work.

Chief Vollmer left Berkeley in 1923 for Los Angeles to reorganize the police department in that city. Keeler and his polygraph followed, where Keeler enrolled in the University of California at Los Angeles, but continued with experimental use of the polygraph. Some of his achievements at that time helped to lay the foundation for the acceptance of the polygraph technique in criminal investigation. In one instance he picked, out of a group of 125 policemen, the one who had stolen a revolver; in another case he found the least suspected girl in a sorority house was the culprit; he was successful in obtaining a confession from a murderer; and several bank holdups were cleared as a result of his ability to show the guilty person how obvious his reactions were.

When Vollmer left Los Angeles, Keeler transferred to Stanford University, majoring in psychology, where he was directed in his work by Professor Miles. He was busy during this period developing the model which is now known as the Keeler Polygraph. He invested so much time on this project that he didn't get the necessary credits for graduation and had to return later to take additional work for his degree. In the meantime he went to the Institute for Juvenile Research in Chicago, where he continued with his experiments and research in collaboration with Larson and George Haney. During that time (1929-1930) Keeler and his associates examined 500 convicts in Joliet, all of whom claimed they were innocent of the crimes charged. The examiners found only two of the entire group innocent of the charges against them.

Keeler and C. B. Hanscom check the instrument prior to a polygraph test.

Later Keeler examined hundreds of inmates of mental institutions in Illinois and Minnesota. He conducted research to discover if possible what correlation there might be between intelligence and reactions; to discover if there was any correlation between emotional instability and certain types of reaction patterns. Unfortunately, the results of his research were never published because at the same time he was busy with case work and was much in demand as a lecturer on the use of the polygraph. Between January 1 and December 31, 1931, for instance, Mr. Keeler gave 78 lectures on the polygraph to groups in a period of nine months, in addition to his Northwestern University lecture commitments and polygraph examinations.

In 1929, scientific crime detection was practically unheard of in the U. S., and police departments in their fight against crime did not have access to the modern scientific laboratories of today. As a result of the 1929 St. Valentine's Day massacre of seven gangsters in Chicago, Burt Massee, then vice president of the Colgate-Palmolive-Peet organization, contributed the cash necessary to set up the first scientific crime detection laboratory in America. The laboratory was given to Northwestern University, under whose sponsorship it was operated for eight years. Mr. Massee asked Calvin Goddard, pioneer authority on firearms identification and scientific methods of crime detection, to head the laboratory and Col. Goddard soon asked Leonarde Keeler to join the staff.

Those first years at the Northwestern University Scientific Crime Detection Laboratory were exciting and fruitful years. Here a group of ambitious and enthusiastic young crime fighters applied science to the detection of deception and other phases of criminal investigation. Undoubtedly this laboratory, through the seminars for law enforcement officers, district attorneys, etc., gave impetus to the modernization of police methods fostered by August

Keeler possessed the ideal qualifications for a polygraph examiner, with a disarming personality that gave him complete control of the test situation.

Vollmer. Most of those who made up the original staff of the Scientific Crime Detection Laboratory of Northwestern University are still active in crime detection work, though some have passed on. Among those affiliated with the courses offered by Northwestern during those years who have died, were Dean John H. Wigmore, master of legal jurisprudence, August Vollmer, Calvin Goddard, and of course Leonarde Keeler and his wife Katherine.

Keeler married his college sweetheart, Katherine Applegate, in 1931 and she became one of the foremost examiners of questioned documents in the country. Mrs. Keeler enjoyed a phenomenal success in the field of document examination for a number of years, only to give up her business and take up flying seriously. During the war she joined the WAAFs and was killed in 1944 when her plane crashed.

During the eight years, from 1930 to 1938, Keeler and others working with him at Northwestern continued to experiment with the polygraph technique. Among those in the Laboratory at that time were Charles M. Wilson and Fred Inbau, who was awarded a fellowship at Northwestern University School of Law in order to conduct research in scientific methods of crime detection. Inbau became interested in the polygraph and has written one of the most authoritative works on the subject. The first issue of the *American Journal of Police Science* (now incorporated with the *Journal of Criminal Law and Criminology*) was issued by the Scientific Crime Detection Laboratory in January 1930. Contributors to that first issue included August Vollmer, Calvin Goddard, Leonarde Keeler and others. During these years also, experiments were conducted in the use of scopolamine and other "truth-serums."

Keeler's technique consisted of the specific response test (relevant-irrelevant), the peak of tension test, word association test, sensory tests, and psychopathic tests. When a subject reacted to the specific response test, the peak of tension test was often used successfully. Keeler employed the map technique to solve a number of famous cases. It was used by him in Seattle, Washington, in 1929 when Earl de Castro Mayer was under suspicion in the disappearance of James Eugene Bassett, an Annapolis graduate, whose automobile turned up in the possession of Mayer. Mayer pleaded innocence, gave a plausible reason for possession of the car, and offered to submit to truth serum to prove his innocence. Under the influence of the drug he admitted nothing and then offered to take a polygraph test. Mayer was a hardened criminal but when he saw his reactions on the machine, lost his composure and refused to answer any questions. Keeler continued to question him and even though Mayer made no verbal replies, his reactions to Keeler's questions on the map helped to first place the disposal of the body in Washington, and then narrow it down to a particular section of the county. Later the body was located in the area Mayer's reactions indicated it would be found.

In another case involving a map test, Keeler identified from thousands in the camp the nine German POW's who had executed one of their number who deserted Nazism. One prisoner who refused to talk, by his reactions on the polygraph, narrowed the "execution" area down to one compound and finally to the nine prisoners responsible.

In still another map test, Keeler was called to Boulder, Colorado to aid in the search for the rape-slayer of an 18-year-old coed. When he arrived the authorities had in custody a man whose wife had reported him to the police because she believed he was involved in the slaying. The suspect, Walker, first disclaimed any knowledge of the crime, but under the questioning of Keeler and the polygraph, finally told a fantastic story regarding a stranger who got into his car with the girl, bludgeoned the subject (Walker) over the head and while Walker was unconscious, the stranger apparently killed the girl and disappeared. Using the map test, however, Keeler located the gun which Walker had used in the slaying and later discarded, and the girl's schoolbooks, which he had thrown away after tearing her name from the front page so that they could not be identified. A partial confession was obtained from Walker when confronted with his reactions on the polygraph.

In 1938, Northwestern University sold the Scientific Crime Laboratory to the City of Chicago. Keeler, who had headed the Laboratory for some time, decided not to go with the Laboratory to the city and opened his own offices on LaSalle Street in Chicago. Early associates with him in the LaSalle Street office were George Haney, George Smith, Lester G. Schreiber, and Alex Gregory. During this time he trained a few police officers in the use of the polygraph. The men were sent in by their departments and they received two weeks of instruction after which they were advised to return to their departments and use the technique with an experimental attitude and

to return to the Laboratory for additional training at the end of six months. Many of his trainees did so, but Keeler felt that the training period itself should be expanded and lengthened. Shortly before his death, in 1949, Keeler had moved into new and larger quarters in order to accommodate the new training program which was expanded to a six weeks period.

In one of Keeler's first classes was Col. Ralph Pierce of the U. S. Counter Intelligence School in Chicago. Pierce was the first U. S. Army polygraph examiner. He attended several of the two-weeks courses, and shortly thereafter the U. S. Army began to have Keeler train additional examiners and to purchase polygraphs for use in several departments of the Army.

One of the most widely publicized army cases solved by Keeler and Pierce was that of the Hesse Crown Jewel case. In this investigation approximately $1,000,000 in jewels were recovered through the use of the polygraph, and the principals involved in the case were tried and imprisoned. Keeler flew to Germany where he testified at the trial; and, incidentally, while there he examined subjects in numerous unsolved criminal cases.

In January 1941, a small group of polygraph examiners headed by Paul Trovillo, including Arthur Eggert, George Eckerman, Verne Lyon, George Haney, John Reid, and Leonarde Keeler, met and discussed the desirability of setting up a national organization of polygraph examiners.

Aims and objectives of the Society were discussed and the matter of a suitable name concerned the group even at the outset. After those preliminary meetings, however, the plan lay dormant for several years —until 1945. In 1945, the U. S. Government requested Leonarde Keeler to screen a group of German POWs being held at Fort Getty, Rhode Island, prior to their being sent back to Germany to aid the U. S. Occupation Forces in governing the American sector of Germany.

Keeler married his college sweetheart, Katherine Applegate, in 1931. She became in her own right a noted examiner of questioned documents and enjoyed a phenomenal success in this highly specialized field. Facing her are photographic exhibits featuring her solution of a notorious vote fraud case in which identifications were made solely through handwriting characteristics in a single letter—"X."

Evenings at the Bay View Hotel, where the eight examiners Keeler had assembled for the screening project lived, were spent discussing the polygraph and the proposed society. Among the group was Paul Trovillo, who had originally suggested the idea of the association, as well as Charles Wilson, David Cowles, Alex Gregory, Russell Chatham, James Austin, Ralph Pierce, and Leonarde Keeler. Officers were elected with James Austin as the Secretary having the responsibility of drawing up the constitution and by-laws. Ralph Pierce was elected President and David Cowles, Vice President. The Board consisted of Leonarde Keeler, Chairman, and Harold Mulbar and Dr. LeMoyne Snyder as members. Another two years passed, however, before the Society was finally incorporated in Bismarck, North Dakota by the Secretary, James Austin. Much of the delay was caused by the inability of the members to agree upon a name, and it took considerable prodding by Keeler to get the ball rolling. The first *Bulletin* of the Society was issued in August of 1948, and thereafter for a year and a half the *Bulletin* was issued out of Keeler's office by Ralph Pierce.

The first meeting of the newly-formed group was in Chicago in October of 1949, shortly after the death of Keeler. Charles Wilson was elected as the second President, and C. B. (Chick) Hanscom was elected Secretary-Treasurer. Keeler had looked forward to that first convention as he had high hopes for the Society. It is a fine tribute to the small and struggling organization that it has been able to hold a successful convention every year since that first one, an indication that the Society, like the polygraph, is here to stay. The later history of the Society, including the change, in 1953, from the original mouth-filling name of The International Society for the Detection of Deception to the Academy for Scientific Interrogation, is familiar to both old and new members.

In 1946, Mr. Keeler was called to Oak Ridge to screen 850 employees, including scientists and top executives who were employed in or had

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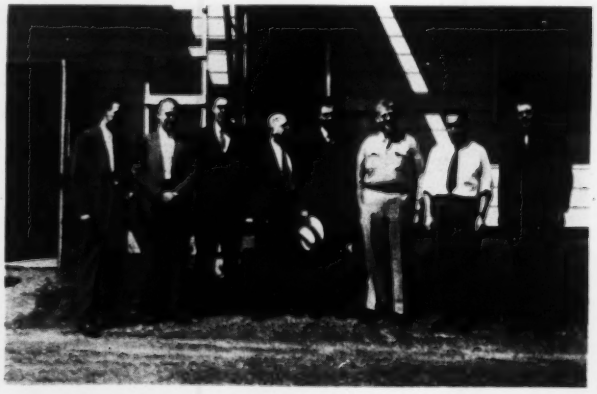
access to the final products used in the building of fission materials. Most of the operators who had been on the Fort Getty project were taken by Keeler on the Oak Ridge project. After the initial screening, Mr. Keeler was given a contract for subsequent screening, which he later turned over to Russell Chatham.

Keeler's success with the polygraph did not consist solely of exposing the guilty. In almost as many cases the innocent were freed of suspicion through his use of the polygraph. In two well-known instances, innocent men were freed from prison as a result of polygraph tests and the additional evidence uncovered. One of these cases, that of Joe Majczek, imprisoned eleven years for a murder he denied committing, was made into the motion picture CALL NORTHSIDE 777. Keeler appeared in this film himself.

A tremendous amount of personnel testing and applicant screening for banks and business houses was performed by Keeler. Whenever petty thievery was discovered on the part of an employee, and the employee confessed, Keeler advised against discharge, stating that such an employee taking cognizance of further testing invariably refrained from further pilfering.

There were times when it was not possible to prove the results of his examinations and these cases were often puzzling for want of an adequate explanation. On one occasion, Mr. Keeler ran the entire personnel of a bank when $12,000 in cash was discovered missing from a safe deposit box. It appeared to be an "inside job" but all those tested ran clear. For ten years the mystery remained unsolved and the $12,000 remained missing; then one day one of the missing $100 bills appeared in a customer's deposit in the same bank from whence the $12,000 disappeared. An alert teller spotted the bill and brought it to the attention of the president of the bank. The depositor, a wealthy woman, stated that she had taken the bill from her mother's safe deposit box, which had not been opened for years. In reconstructing the mysterious occurrence, it appears that the depositor who lost the $12,000 opened his safe deposit box sometime before the loss was discovered and had inadvertently left the cash and securities in a booth. Immediately after that the woman in whose box the money was found had apparently opened her safe deposit vault in the same booth and had put the missing money back into her safe deposit box with her own papers and securities.

Increasing demands for Keeler's services in cases all over the country began to take toll of his health in



This team of polygraph experts in the German Prisoner of War Screening Program detected 79% (11 out of every 14) of the pseudo prisoners. Left to right: Russell Chatham, Alex Gregory, James Austin, David Cowles, Paul Trovillo, Col. Ralph Pierce, Charles Wilson and Leonarde Keeler.

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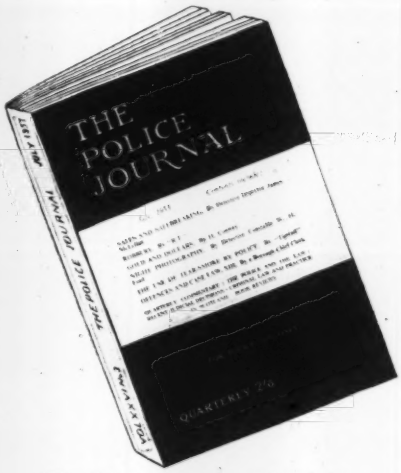

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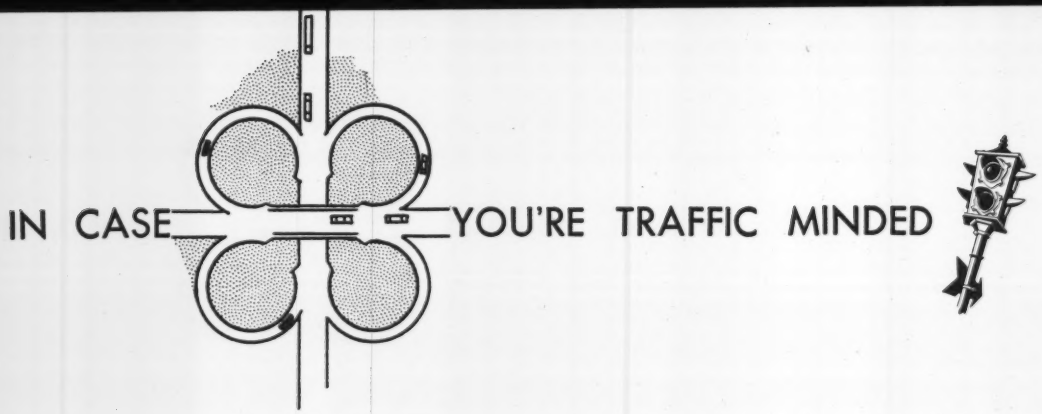
the form of constantly rising blood pressure, and he spent considerable time in the hospital from time to time. In spite of his failing health, and at the urging of his associates and others, he moved into larger quarters just a year and a half prior to his death, in order to train men for the Army, Navy, and other U. S. governmental agencies. Branches of the government were using the polygraph increasingly and these agencies requested that Keeler train men to operate the instruments they were purchasing. The program was cut short by his death before Keeler had had the opportunity to train any considerable number of men for the government services.

Early in 1949, Keeler suffered a minor stroke and was hospitalized in Chicago for weeks. He went to the Mayo Clinic for additional weeks, returning to Chicago in August. The first of September, his health apparently having improved sufficiently, he went to Sturgeon Bay to spend a week or two with C. M. Wilson, Superintendent of the Wisconsin State Crime Laboratory, who was vacationing at Jacksonport with his family. On September 7, Keeler suffered another more serious stroke from which he never rallied, dying on September 20, 1949.

For twenty-five years Mr. Keeler had worked unceasingly to bring the polygraph and its technique to the attention of law enforcement officers as a scientific aid to investigations. His efforts must be acknowledged successful when we consider the unspectacular and routine use of the lie detector today as contrasted to its use twenty years ago. And Keeler's direct responsibility for the use and acceptibility of the lie detector technique is evidenced by the fact that Chicago and the Midwest, where Keeler practiced for twenty years, might be called the polygraph center of the world, for in no other location has the instrument and technique been as extensively used.

There has been considerable criticism directed against the use of the polygraph in the past few years, particularly since Keeler's death, and at times it appears that some ground has been lost, at least in public relations. The ever-increasing and successful use of the technique in the field of criminal investigation, however, indicates that criticism from persons who have only a superficial knowledge of the use of the instrument will have little effect upon the future of the polygraph among law enforcement agencies. Some constructive criticism might profitably be levied against the practices of a few individuals in the field, but the criticism should come from the polygraph examiners themselves, since the sincere members of the profession believe in the polygraph and its associated techniques and are concerned with their acceptance and future standing.

(The Editor of this section wishes to acknowledge the source of this biographical material: Miss Viola Stevens and Mr. C. B. (Chick) Hanscom, former Secretary-Treasurer and Past-President of the ASI. Deep appreciation is extended to Miss Stevens, who was associated with Leonarde Keeler for a number of years and who collected these data and illustrative materials.) ★★★



Traffic Contacts in Law Enforcement

By Harold J. Gardner

EDITOR'S NOTE: *The author is a patrolman in the Police Department of Cincinnati, Ohio. More detailed information concerning him was presented in a previous article,* THE EMERGENCE OF A PROFESSION, *which appeared in the May-June issue of* POLICE. *Officer Gardner brings into focus in the following article the potential value of traffic contacts and their prolific yield in terms of traffic enforcement, crime prevention, the apprehension of wanted criminal offenders and in the field of public relations. The individual officer reading this article will find suggestions of important value to him in his daily contacts with traffic offenders.*

THE most frequent contacts an officer has with the public are those made while enforcing the traffic laws. Some constructive thought concerning traffic-offender contacts will bring to mind a good many advantages to be gained by an increased number of such contacts—advantages even beyond the primary purpose of traffic enforcement.

Most people, policemen and laymen alike, will agree that in the course of one day the greater percentage of people using the highways, either as motorists or pedestrians, will violate *some* traffic law. Of course, not all violations can be observed by the Police.

This condition offers the policeman an opportunity, legally, to stop any offender regardless how trivial the violation. These personal contacts are classified according to the area of enforcement to which the various advantages will accrue, as follows: 1. Traffic Enforcement; 2. Crime Prevention; 3. Apprehension of Criminals; 4. Public Relations.

TRAFFIC ENFORCEMENT

Obviously, an intensive traffic program must include numerous personal contacts with traffic offenders, regardless of the seriousness of the violation. Though it be so slight that the motorist is summarily dismissed with a friendly warning, the effects of such contacts can be very far-reaching.

First, the offender himself is impressed to know that his conduct on the highway is being observed; and secondly, all other people who see an offender stopped are equally impressed to know that the law is being enforced. If the influence on the part of the public that merely observes an offender being brought to task, could be measured, it would not be surprising to discover that this influence is of greater value to the enforcement effort as a deterrent, than the influence derived from penalizing the individual offender.

This is true, I believe, because people imagine themselves in the place of the offender who has been "caught" and to avoid a similar predicament they will make a conscious effort to obey the law. Presumably, this "conscious effort" will continue only as long as the incident remains active in the person's mind and no longer. The value lies in the fact that a larger number of people are thereby influenced. We may infer then, that an increased number of traffic contacts will result in more extensive public awareness of the enforcement program, thus cultivating a "conscious effort" in more and more individuals.

Other advantages to be considered in connection with traffic contacts, as they relate to the enforcement program, result from the ritual of asking for one's drivers' license. If he cannot produce it, it may mean he has been suspended by a court (in many jurisdictions the court retains the license until the suspension has expired); or, he may not be licensed at all; or, of less consequence, he may have left his license at home. Individuals who drive when ordered not to, by a competent court; or individuals who drive without being licensed at all, show flagrant disregard for the law and should be brought to justice. This can only be accomplished by stopping them for other violations.

CRIME PREVENTION

Criminals and potential criminals are mobilized in this modern era. A motor vehicle is as important to them as a weapon, a set of burglar tools or an ignition jumper. The criminal knows that removing himself quickly from the scene of his crime reduces his chances of being detected and apprehended.

Address: Patrolman Harold J. Gardner, 3150 Bishop Street, Cincinnati, Ohio.

An experienced Police Officer will look for things that indicate a criminal purpose, whenever he stops a traffic offender. Burglar tools, loot or any items that cause suspicion should move the officer to investigate further. Some states permit the Police to make a thorough search of any vehicle involved in a traffic violation.

A casual inquiry into the nature and purpose of suspicious objects would discourage many a would-be burglar or robber from subsequently executing his crime. Or, if the criminal should persist in his scheme, the Police Officer may later be able to associate the crime with the person he stopped and thus lead to his apprehension.

APPREHENSION OF CRIMINALS

As important as a vehicle is to the successful execution of many crimes, it is equally as important to the Police in apprehending the criminal. This is true if the victim of, or witnesses to a crime are able to furnish a description of the vehicle used, along with a description of the suspect. There are also crimes where evidence shows that a vehicle was used, but no information can be advanced as to color, type and make, etc. by a witness who actually saw the vehicle. It is possible, however, through scientific methods to determine the size and weight of the vehicle; and the size and make and also condition of the tires. In rare cases, even the color may be determined if by chance the vehicle scraped against something.

When a robbery has been committed, the description of a suspect and/or vehicle are broadcast and all officers are alerted. If the description of a suspect is not accompanied with information regarding the vehicle he used, the chances of apprehending him immediately, are greatly reduced. But, if the suspect commits only a minor traffic offense and is stopped by an alert officer, he may be recognized from his personal description and arrested.

In other cases the description of stolen property is known, but nothing is known about the suspect or his method of travel. Many crimes have been solved with just such information, because an alert traffic officer noticed the stolen property in the car or truck of someone he had stopped for a traffic violation. Crimes have been solved because of stopping someone for nothing more than double-parking or running a red light.

Many things can be learned from a person's car—who he is; where he is going or coming from; what he has been doing or what he plans to do. The opportunity to determine these things presents itself everytime we stop someone for violating a traffic law.

PUBLIC RELATIONS

Promoting public relations and at the same time charging a person with a traffic violation, seemingly do not go hand in hand. However, this is not true, and there are several explanations to this paradox. Following is the one I choose to mention because it deals mainly with the contumaceous offenders who present a more delicate problem in the area of good public relations.

Generally, a person is aware of a traffic violation when he commits it, and this awareness induces in him a feeling of guilt. Such feeling, however, is modified in a rational attempt to justify the act. This attempt usually manifests itself in the form of an excuse offered to the policemen, e.g., "there was nothing coming"; or, "there is no traffic on the street"; or, "the light was yellow"; etc. Any excuse that mitigates the seriousness of the violation also tends to suppress the feeling of guilt.

If the officer feels the violation warrants a citation, he issues it forthwith and the motorist proceeds on his way. Any resentment or reluctance on the part of the individual to accept the citation may be predicated on one of the following:

(1) He honestly believes he did not violate the law, or,

(2) He is aware of the violation, but suppresses his guilt feeling after reasoning to himself that the act was excusable, only to have the officer discount his reasoning by issuing a citation.

This resentment is natural and in time the individual yields to the facts of the issue and admits his error. This is evidenced by the large number of people who protest at the time of the citation but later plead guilty in court.

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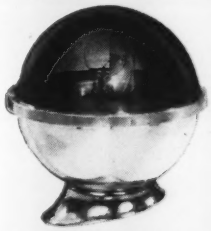

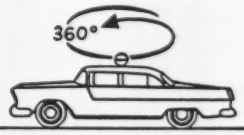

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As pointed out, resentment usually emanates from a conflict in reasoning between the offender and the officer. If the officer expects most people to excuse or deny their violation, and the individual expects most officers to issue a citation, there should be no cause for ill-feeling.

Granted that the violation and the citation are bona fide and one reconciles the other, something else must be considered as a factor in determining good or poor public relations. Appropriately, we consider the demeanor of the officer as such a factor.

If the officer is courteous, respectful and thoughtful toward the offender, even in the face of argument or verbal abuse, he will command respect regardless of any citation. The highest courts in the land cannot be abusive and disrespectful to a person, even while they might be meting out a death sentence. For an officer to be abusive toward a traffic offender is unnecessary, deplorable and seriously damaging to the prestige of the Law Enforcement Profession.

There are occasions when a traffic violator is excessively abusive to an officer. In these cases the proper action should be physical arrest. To meet abuse with abuse and argument with argument is reducing one's self and one's profession to the same level of ignorance and crudeness inherent in this type of offender.

The value of the traffic-offender contact in Law Enforcement is immeasurable. ★★★

PROGRAM FOR TENTH ANNUAL CONVENTION AND SEMINAR ACADEMY FOR SCIENTIFIC INTERROGATION

Monday and Tuesday, 18 and 19 August

Examination of Candidates for Certification
8:00 a.m. to 10:30 p.m. daily at Texas Department of Public Safety Headquarters

Tuesday Evening, 19 August

8:00 a.m. Open House to ASI members and guests at Texas Department of Public Safety Headquarters

Wednesday, 20 August

8:00—9:30 a.m. Registration and Fees, Conference Room, Terrace Motor Hotel
9:30 a.m. Meeting Called to Order
Invocation
Addresses of Welcome
10:00 a.m. Preliminary Business Meeting
Discussion of Program, and clarifying announcements by Chairman
President's appointments of special committees
Announcement of names of candidates reaching Certification
11:00—11:45 a.m. "Polygraphy as a Profession," Fred W. Nicol
12:00—1:15 p.m. Luncheon and Entertainment, Terrace Motor Hotel
1:30—2:15 p.m. "Polygraph Use in Time and Motion Study," Dr. V. A. Leonard
2:15—3:00 p.m. "Who Is a Fit Polygraph Subject?" Robert D. Steel
3:10—4:00 p.m. "Discontinuous Vs. Continuous Polygraph Measurement of Blood Pressure," Warren D. Holmes
4:00—5:00 p.m. Preliminary Meeting of Special Committees, Conference Room
5:00—6:00 p.m. Pool side—Family Hour
7:00—8:00 p.m. Barbeque, Dee Wheeler, Host, Sheriff's Posse Rodeo Arena, Picnic Area
8:00—10:00 p.m. Rodeo, Sheriff's Posse Arena
Courtesy: Sheriff Lang's, Travis County Sheriff's Posse
Special Guest Entertainer: Sheriff Phil Medlin, Sequin, Texas

Thursday, 21 August

8:30—9:15 a.m. "Scientific Interrogation in Criminal Cases," R. P. Rainey, Jr., Investigator, Virginia State Police, Clarksville, Virginia
9:15—10:00 a.m. "Supervision of Polygraph Examiners," O. K. Bivins
10:10—11:00 a.m. "One Approach to Polygraphy," Edward B. Bates
12:00—1:15 p.m. Luncheon and Entertainment
1:30—2:15 p.m. "What Can the Polygraph Do for a Police Department," John C. Rapp
2:15—3:00 p.m. "Army Lie Detection School," Representative of Provost Marshal General
3:10—4:00 p.m. Subject to Be Announced, Dell Watts
7:00—8:00 p.m. Cocktails and Refreshments, Lobby, Banquet Room
8:00—10:00 p.m. Banquet
Invocation
Toastmaster: Leo E. Hatcher
Featured Speaker: Morris Frank, Houston Chronicle, Houston, Texas

Friday, 22 August

8:30—9:15 a.m. "..... ...." Dr. LeMoyne Snyder, Medico-Legal Expert, Paradise, Calif.
9:30—11:00 a.m. Final Business Meeting
11:00 a.m. Adjourn

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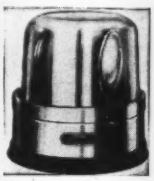

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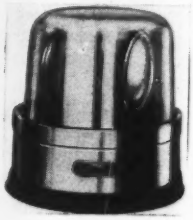

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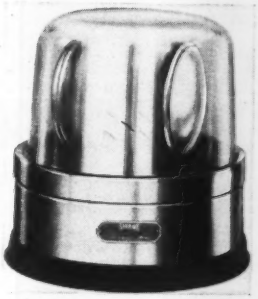

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A Correlation Study of Blood Alcohol Levels as Determined by Alcometer, Breathalyzer and Direct Blood Analysis Including Blood-Urine Alcohol Ratio

A Report of Experiments Conducted at Fort Worth, Texas on March 29 and 30, 1957

By J. D. Chastain in collaboration with H. J. Strauss and C. W. Maupin

EDITOR'S NOTE: *The following study concerning blood alcohol determination conducted under the auspices of the Texas Department of Public Safety, is one of more than ordinary significance to the police throughout the country. In making the report available, Col. Homer Garrison, Jr., Director, stated:*

"It is now a universally accepted physiological fact that within limits of human variability the concentration of alcohol in the circulating blood is a reliable index of the degree of alcoholic influence. The nature and scope of the problem of alcohol and road traffic is such that chemical testing must be placed within the reach of all law enforcement.

"With the expanding use of chemical tests, it is necessary to have a clearer understanding of the validity, reliability and accuracy of the various testing procedures and devices. This can only come about through careful laboratory research and documentation of results. This study is presented with a sincere desire that it may contribute to a broader and more uniform enforcement program."

THE need for the use of chemical tests for intoxication in connection with traffic enforcement has led to the development of breath analysis instruments. These instruments have been devised so that the policeman can be trained to operate the instrument himself. This series of tests was made in an effort to show the reliability and correlation that may be expected. The Alcometer and Breathalyzer were selected for this study since they are currently being used by police agencies in Texas.

The tests were conducted at the Fort Worth, Texas Police Department under the direction of J. D. Chastain, Chief Chemist and Toxicologist for the Texas Department of Public Safety, who also operated the Breathalyzer. The task of obtaining blood and urine specimens and completing the National Safety Council Alcoholic Influence Report Form was performed by H. J. Strauss and C. W. Maupin, both chemists and toxicologists for the Texas Department of Public Safety. The Alcometer was operated by Sergeant Harvey B. McMahan and Sergeant Ray Briggs of the Fort Worth Police Department.

The tests were run on subjects being placed in jail on drunkenness and DWI charges. Since the tests were only for correlation studies of breath, blood, and urine, no psychophysical tests were given. The National Safety Council's Alcoholic Influence Report Form was completed on each subject.

After each subject had been booked, he was taken from the jail cell and submitted to the series of tests. First, a urine specimen was collected, then the Alcometer and Breathalyzer were run, and next a specimen of blood was withdrawn from an arm vein, then the alcoholic influence form was completed, and lastly a second urine specimen was collected as soon as, or if, the subject could deliver one.

An accurate account of the time was kept on each test when it was conducted. The blood was withdrawn and both breath tests run within approximately five minutes. A non-volatile antiseptic was used in withdrawing the blood so that type error was eliminated. The tests were conducted on two successive nights, starting at 7:30 p.m. and concluding at approximately 2:00 a.m. The blood and urine specimens were returned to the Texas Department of Public Safety laboratory in Austin for analysis. The method of analysis used was the Dubowski-Withrow, which method, in the author's personal experience, has proven highly accurate and reliable.

The results of this study indicated that the Alcometer and Breathalyzer are reliable and correlate very close to direct blood analysis. If the instruments are operated in the manner recommended by the authors, the results obtained can be expected to be within ± .015% (which is almost insignificant) of direct analysis of the blood.

All the subjects were fully cooperative to the best of their ability. Some of them were in the advanced stages of intoxication, which possibly was a factor in some of the low percentages from breath analysis since it was rather difficult for them to blow as directed. However, it rarely occurs that a breath analysis is significantly higher than direct blood analysis.

Only the Alcometer and Breathalyzer were included in this study; however, it has been the personal experience of the author that the other two well recognized breath analysis instruments—Drunkometer and Intoximeter—are also reliable. A complete copy of the report, including data tables and correlation charts, may be obtained by addressing the Texas Department of Public Safety, Box 4087, North Austin Station, Austin, Texas. ★★★

Address: Mr. J. D. Chastain, Texas Department of Public Safety, Box 4087, North Austin Station, Austin, Texas.

Suicide and the Police Officer

By Norman L. Farberow, Ph.D., and Edwin S. Shneidman, Ph.D.

EDITOR'S NOTE: *Dr. Norman L. Farberow is Clinical Psychologist at the Veterans Administration Mental Hygiene Clinic, Los Angeles. He is also Instructor in the Extension Division at the University of California at Los Angeles, and Research Associate at the University of Southern California. He is co-recipient (with Dr. Shneidman) of a U. S. Public Health Project Grant on the Study and Prevention of Suicide. He received his A.B. and M.S. degrees from the University of Pittsburgh and his Ph.D. from UCLA in 1950. He is a Diplomate in Clinical Psychology, American Board of Examiners in Professional Psychology, and is co-author (with Dr. Shneidman) of the book* CLUES TO SUICIDE *(McGraw-Hill, New York, 1957).*

Dr. Edwin S. Shneidman is Chief of Research, Psychology Service, at the Veterans Administration Neuropsychiatric Hospital, Los Angeles; Research Associate, University of Southern California, and co-recipient of U.S. Public Health Project Grant on Suicide. He received his A.B. and M.A. from UCLA and his M.S. and Ph.D. from the University of Southern California in 1948. He is a Diplomate in Clinical Psychology, American Board of Examiners in Professional Psychology, and co-author of the book CLUES TO SUICIDE.

IN the foreword to our book, *Clues to Suicide* (McGraw-Hill, 1957), Dr. Karl Menninger, one of the foremost experts on the topic of suicide, begins with "Once every minute, or even more often, someone in the United States either kills himself or tries to kill himself with conscious intent. Sixty or seventy times every day these attempts succeed. In many instances they could have been prevented by some of the rest of us." Dr. Menninger's statements about the extent and seriousness of the problem of suicide are borne out when we look at the figures of the National Office of Vital Statistics, of the U.S. Department of Health, Education and Welfare. Suicide has ranked in the first ten of the list of killers in this country for most of the past half century. The total number in 1955 was officially listed as 16,760, although it has been estimated that the real figure may be double or even triple that number because of the tendencies to report suicides as accidents or to give the secondary complicating illness (heart failure, pneumonia, etc.) as the cause of death—all to protect the victim and his family.

In addition, it has been conservatively estimated that the number of suicidal attempts is anywhere from three to eight times that of the number of completed suicides. The police officer comes into direct contact with more cases of threatened, attempted, or completed suicide in his line of duty, than do persons in any other single professional group. From sheer weight of numbers alone the problem for the police officer would be an important one. But its importance is emphasized even more by the amount of misunderstanding, misconception, and misinformation which surrounds the phenomenon of suicide.

In the performance of his duties the policeman takes many roles. Guardian of the laws, protector of the people, and safeguarder of the health and welfare of the citizens of his community, the policeman does many things, but the role that he assumes with the suicidal person is a very special one. Similar to the criminal situation, he is faced with either an act of violence or the threat of an act of violence, but the enormous difference this time is that it is directed not against another person but at the victim himself. Accompanying this may, on rare occasion, be all degrees of danger to others (e.g., the gas filled room exploding, the inadvertent shooting of a bystander, the jump off a bridge onto cars below), but usually the violence is confined to the one person, the victim. Police are concerned, however, not only with preventing harm to others but to the self.

From the legal point of view, suicide has often been linked with murder—we have called this misconception "murder in the 180th degree." This linkage has an interesting history in English law where the injunctions against suicide arose out of the king's wishes to obtain freemen's property which would ordinarily have gone to their local lords, and he could only do so if the individual were guilty of a felony, and so the early English kings declared that suicide was a felony against the self (felo de se) in order to permit the property to come directly to the crown. Moral and religious arguments were brought into play only to justify this decision. The suicidal person *is* different from the criminal or the lawbreaker, and this is what makes the role of the policeman in these situations both special and different. The policeman's role in the face of a suicide attempt can perhaps be better understood and accepted only when the behavior of the suicidal person is recognized for what it is—the action of a person emotionally disturbed, hurt, frustrated, maladaptive. Such actions will frequently be irrational, confused, self-defeating, but inevitably they are accompanied by all kinds of strong, forceful emotions present in the victim, or aroused in the persons who become involved, the family, relatives, and the police. It might be useful therefore to examine some of

Address: Dr. Norman L. Farberow, Clinical Psychologist, Veterans Administration, Neuropsychiatric Hospital, Wilshire and Sawtelle Boulevards, Los Angeles 25, California.

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the emotions aroused within the people most immediately affected.

UNDERSTANDING THE VICTIM

What are the motives which drive an individual to contemplate such an act as suicide? Certainly this kind of response is a highly individual affair, but many investigators of suicide have attempted—on the basis of suicide notes, personal documents, interviews, etc.—to classify the various possible reasons. In so doing they have listed many causes such as ill health, loss of a loved one, infidelity, shame, drug addiction, alcoholism, jealousy, marital difficulties, and others. These, however, are external (or precipitating) factors, and only hint at the basic underlying feelings and emotions which are in conflict. When these latter are delineated, it can be seen that such basic motives as fear, anger, guilt, revenge, anxiety, loneliness are present in varying degrees and are the feelings which must be handled in treating the victim.

While it is impossible to describe an *average* suicidal person, a *typical* one might be a man in his mid forties, with a fairly good job, home, family, but who has just had a quarrel with his wife who, he feels, has either physically or emotionally rejected him. Filled with feelings of despair, self-recrimination, and discouragement, he makes an attempt on his own life. This is not the act of a criminal but rather the act of an emotionally disturbed person, one whose difficulty is not necessarily that of someone who has lost his reasoning power or ability to think, but one whose emotions have overwhelmed him to the point where either he gives up or acts out the intense feelings which have been stirred up within him. The young girl who has just been jilted is filled with intense, sometimes unbearable feelings of being unlovable or worthless. And along with these she may also have deep feelings of anger which, because they are unacceptable, remain unconscious and are turned against herself. The older person whose wife recently died or who has an illness which threatens to make an invalid of him feels alone and a burden on those around him, feels lost, and without worth, abandoned, or rejected. These are all people with emotional disturbance, but fortunately most of them are amenable to care and treatment. In dealing with such a suicidal person, the policeman often finds himself in a great variety of situations, some of them uncomfortable, many of them unenviable. He may be called to the scene where a young man is making a big, histrionic production about his feelings, perhaps by threatening to jump from a high building in the downtown area where large crowds can gather. Or he may receive an urgent telephone call, "I've just swallowed sleeping pills," and he must rush to the address given or traced, there to find the inert body, either in coma, or already dead, or else to find a distraught suicidal person, with frantic relatives or neighbors milling around.

A Los Angeles newspaper reported recently the death of a young 25 year old girl who died just as two police officers reached her apartment. They had rushed there after the girl had called the police station to report that she had just taken "25 yellow sleeping pills." The detective said that the girl had called often late at night to talk away her loneliness. When she called and told of the suicide decision, the detective kept her on the telephone until he learned her address, and then sent the two officers to her apartment. They arrived too late. When the victim is dead, little of course can be done, except to notify the coroner and relatives. When the victim is in a coma or is unconscious, the need for prompt medical care is readily apparent and the provision of such care is usually immediately arranged. When the person is conscious and not seriously hurt, or when he has been threatening suicide and has not made any attempt, then the problem becomes much more specific, that is, it is then that of dealing with a person in emotional distress.

Sometimes this is a person who is quiet and compliant, and so presenting no management problem, but frequently it is someone upset, recalcitrant, or hostile. The policeman may suddenly find himself the center of all the displaced anger, even to the point of bearing the brunt of actual physical or verbal attacks either from the victim or from the people surrounding him. Sometimes in the glare of the public gaze, frequently in the midst of an unsympathetic, negative atmosphere, it is difficult to act with the desirable restraint and with concern for the emotional state of the victim. Firmness and

fairness are difficult but at the same time the very essence of the handling of such a person at that time. While police officers, of course, cannot be expected to be psychiatrically trained to the extent of knowing exactly what to do with a highly disturbed, emotionally distraught individual, it is to be hoped that recognition of and sensitivity to such states can help bring the person into contact with the trained help available in the professions of psychiatry, psychology, and social work.

DEALING WITH THE RELATIVES

Sometimes the most difficult part of the unpleasant task will be encountered in the contacts with the family, where many feelings have been aroused. Two of the main types of feelings are guilt and hostility. The guilt arises from the family's feelings that somehow they have been responsible for bringing the victim to the point where he has felt so despairing and so lonely that he could see his only recourse as self-inflicted death. They may blame themselves for what has happened, and the resultant guilt and the depression may be very intense. At the same time there may be strong feelings of anger and resentment against the suicidal person, feelings that are frequently in response to the covert (or implicit) implications of the act itself, i.e., that the suicide attempt is so often a hostile gesture against the family. If the act has been one of a series of similar attempts, there may be more open anger at the repeated, veiled accusation communicated by the act, i.e., "You drove me to do it; it's all your fault." There may also be strong feelings aroused against what they may feel as openly unfair demands for attention and concern—which, it is felt, the suicidal person does not deserve because of his continued denial of responsibility and maturity.

FEELINGS WITHIN THE POLICE OFFICER

Finally, there are the feelings of the police officer himself, when he comes into contact with the suicidal person. They reflect society's reactions as well as his own individual feelings. Frequently there are feelings of contempt and of anger, the attitude that this is a weak person who was taking the coward's way out, who could not face up to his problems and meet them in a straightforward way, and who could not even do the job (of killing himself) right at this time but instead bungled this one too. He has made trouble for many people in the past and by the last act involves even more, obtaining the attention of nurses, interns, physicians, friends, family, police, etc. And these are all for someone who wanted to be quit of the human race and all their services in the first place! These are feelings which are aroused too easily in us because in some way they hit at deep feelings within ourselves. Thus, whereas individuals who have physical diseases stimulate pity and compassion in us, those who use violence against themselves arouse hostility in us because they unobtrusively activate our own deep misgivings about our own violent feelings in that they dare to express openly what the others of us have been careful to keep under control. H. R. Fedden, in his book, *Suicide* (London, 1938), expressed society's attitude when he wrote:

> "Suicide shows a contempt for society. It is rude. As Kant says, it is an insult to humanity in oneself. This most individualistic of all actions disturbs society profoundly. Seeing a man who appears not to care for the things which it prizes, society is compelled to question all that it has thought desirable. The things which makes its own life worth living, the suicide boldly jettisons. Society is troubled, and its natural and nervous reaction is to condemn the suicide. Thus it bolsters up again its own values."

Thus there is fear to be found in our own feelings, fear that is aroused by the presence of similar hidden ideas and thoughts we all have had about ending our own lives; thoughts we have repressed as shameful and embarrassing. There is also anger that someone else can openly express feeling without restraint—a kind of solution to our problems that we must usually deny to ourselves—and that this expression has had the obvious result of gaining all the attention it has so ostensibly spurned. There is the feeling of being cheated and fooled by transparent motives and behavior. This feeling is especially true when the suicidal behavior is openly and obviously a gesture and without serious intent. When the act is more evidently a genuine attempt, the reaction is more likely to be one of acceptance, or at least tolerance. The police officer must keep in mind, however, that *all* suicidal actions are essentially the reflection of feelings

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of helplessness and despair and are a cry for help. The policeman who finds that he has a marked over-reaction to suicidal attempts of others (and thus cannot handle them with his usual objectivity) might very well wish to examine his own deep feelings and do what is ordinarily done in the healing arts, that is, seek out consultation, specifically in this case with someone with psychiatric training.

EDUCATION AND RE-EDUCATION

While the investigations into the phenomena of suicide so far have shown us some of the feelings and emotions underlying the complex, sometimes paradoxical behavior of the suicidal person, they have also emphasized the continued need for extensive investigation of the problem from many points of view and as many possible approaches. The search for clues to the prevention of suicide is, like the search for clues to the prevention of accidents, a never-ending one. As investigations are conducted, clues continue to appear, which must be passed on to the general public as part of the process of education about the problem. Part of the task of re-education must inevitably fall into the hands of the police who in their close contact with people, can help dispel some of the "folklore" about suicide which has already grown up around it. Thus, all of the statements below are *false* although they are commonly accepted by large parts of the public.

1. That people who talk about committing suicide won't do it: Our own studies have shown that in one group of people who had committed suicide, fully three-fourths of them, or around 75 per cent, had previously either attempted or threatened or both. It was also found that those who had threatened were more disturbed and in poorer control than those who had attempted. This means that whether the suicidal act is an attempt or a threat, it must be taken seriously. It is one of the significant clues that such a person may carry out his threat or make a successful attempt the next time he is seriously disturbed.

2. That suicide happens inexplicably: One of the most important results of our own studies and of others, like that of Dr. Eli Robbins and his associates in St. Louis, is that the suicidal act generally does not occur suddenly without any warning beforehand, but that rather the suicidal person has given many clues, warnings, and indications of his intentions. Alertness and sensitization to these clues will help to forestall the action.

3. That improvement in a suicidal individual means the cessation of the suicidal risk: To the contrary, our investigations have shown that indeed there seems to be a critical period of at least three months right after the suicidal attempt during which physicians and relatives must be especially cautious and watchful. In our study, almost half of the individuals who committed suicide did so within ninety days of having passed the emotional crisis and after they seemed to be on the way to recovery.

4. That suicide and depression are synonymous: The statement that "I can't understand his doing this, he didn't act like he was unhappy," points to the common mistaken belief that the suicidal person is one who is depressed. Many suicides are more likely to show agitation and anxiety. If depression does appear, it is after it has lifted that the suicidal risk becomes greatest, as if at that time much of the psychic energy necessary for acting on the disturbed feelings may once more become available, whereas they were previously blocked by the intensity of the depression.

5. That suicide is a single entity: It becomes almost immediately apparent that suicide has various forms and shapes in which it takes its expression. It appears in all ages, in both sexes, in all economic levels. If we view suicide as the ultimate in self-destruction, it becomes possible to see that this can take place in many different degrees. Dr. Karl Menninger's interesting book, *Man Against Himself*, illustrates this continuum in suggesting addictions, invalidism, polysurgery, accident proneness, and others as other "kinds" of suicide.

6. That all suicides are insane: Our study of over 700 genuine suicide notes indicates that a portion of those persons who become suicidal are obviously psychotic (out of contact with reality, delusional, hearing voices); others are just as obviously sane. Though the feelings are often intense, disturbed, and varied at the time of the act, just as frequently the reasoning, judgment, and logic expressed are sound, provided the basic premises are accepted. Many suicides, particularly those in the older age groups, and/or in those with severe pain

or terminal illnesses present a deliberate calmness and intact thinking processes apparently undisturbed by the emotional conflicts usually leading to the decision to inflict death or damage to oneself. It is circular reasoning to say that because suicide is an insane act, all suicidal people are insane.

7. That suicide is an immoral act. Suicide in our culture is considered undesirable behavior. Whether this is ethically wrong or right cannot be positively and finally determined. Dublin and Bunzel in *To Be or Not to Be* and Glanville Williams in *The Sanctity of Life and Criminal Law,* give accounts of the ways in which the attitudes toward suicide have changed culturally, morally, ethically, and religiously. The Greek Stoics approved of suicide, Oriental cultures have sanctioned it, and in some South Sea Islands it is even looked upon today as an honorable act. It becomes immediately apparent that whether or not you think suicide is immoral depends on the time and place you happen to live. Behavior and customs are neither eternal nor universal. This in no way negates the need nor the desire to reduce the suicide rate in this country. We operate within the framework of our culture.

8. That legislation prohibiting suicide prevents it. This is notoriously untrue. Indeed authorities point out that legislation against suicide has two opposite effects: (a) that they may tend to make the individual attempt a more serious one (so he will really kill himself and not fall within the "clutches of the law"), or (b) it may be that they will discourage individuals who have made unsuccessful suicide attempts from seeking medical advice and treatment with the result that there is again an increase in actual number of suicides. An interesting comparison is between England and Scotland where in the former there are laws against suicide and in the latter there are not, and where the suicide rate in England is almost twice as high.

The history of suicide indicates that this problem has been an important one from the earliest eras of civilization with even the Bible recording (and condoning) at least four suicidal incidents. As civilization became more complex, suicide has presented both social and psychological problems to society. As a social problem, attempts to handle it have been through ethical, cultural, moral, and religious means. As a psychological problem, it has not been until relatively recent years that some glimpses into the basic motivations and the underlying dynamics of the phenomena have been achieved. With this advancement of our understanding, has come the possibility not only of treating the act when it occurs, but more important, the opportunity to prevent the behavior from occurring at all. It seems too much to hope that suicide can be reduced to zero, for like auto accidents, such a goal in view of the nature of man in his present world must be accepted as a virtual impossibility. But, like traffic accidents, the goal can be to reduce the incidence of the phenomenon to its barest minimum. The awareness, interest, and support for the reduction of this number must come from all sources. The police officer is an important member of the team which is needed to educate the public to the problem and to enlist the support of the community in this battle against a needless waste of life.

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SUMMARY

The purpose of this paper has been to indicate to police officers some aspects of their roles in relation to suicide in the community. It was pointed out that suicidal acts are unlike the majority of other disturbances with which the police officer comes into contact, because they are not in the same moral, psychological, or historical (and often legal) categories as are criminal activities. The recognition of the fact that the individual who attempts suicide must be viewed not as a criminal or bungler but rather as an emotionally disturbed person informs the police officer that he needs to employ special attitudes of tolerance and restraint and special understandings pertaining to emotional disturbance in dealing with such persons. These attitudes are in relation to the suicidal person, in relation to his relatives, and even in relation to the police officer's own habitual emotional reactions to the suicide attempt. For the police officer, the need for self-understanding was emphasized; for the suicidal person, the (life-and-death) importance of professional psychiatric care was indicated. The article concluded with a list of commonly held misconceptions, or the "folklore," about the phenomena of suicide. ★★★

Correctional Service Associates—A Symposium

By Kendall J. Jenkins

EDITOR'S NOTE: *Mr. Jenkins is a Political Science undergraduate and has done graduate work at the University of Southern California in Public Administration and Social Work. He was a Parole Officer with the California Youth Authority for five years. Currently, he is Membership Directory Chairman of the California Probation and Parole Association, Southern Region, a member of the Legislative Committee of that organization and a member of the Program Committee of the American Congress of Corrections for 1957. Mr. Jenkins was a member of the Planning Committee for the Workshop "Casework With Adult Offenders" at the Annual Conference of the California Probation and Parole Association in San Jose, California, in May, 1957.*

Author of the articles OLD AND NEW DIMENSIONS OF NARCOTICS *and* THE PROFESSIONAL *which appeared in issues of the* CALIFORNIA YOUTH AUTHORITY QUARTERLY, *he is President of Correctional Services Associates, an informal but unique correctional organization, and his comments concerning its work and objectives may lead to the formation of similar groups in other states.*

IN October, 1947, the American Prison Association held its annual Congress of Corrections in Long Beach, California. The contingent from Southern California which attended developed the idea of regular monthly meetings of interested correctional workers in the area. Adopting the name *Correctional Service Associates*, the group has met regularly each month since then. October, 1957, marked the 10th anniversary of *Correctional Service Associates* or CSA as it has come to be known. With the addition of new chapters, one in Walla Walla, Washington, CSA in Los Angeles is now designated the Southern California Chapter. It is an affiliate of the American Correctional Association (formerly the American Prison Association) and is represented in the planning of the annual Congress of Corrections.

THE ROLE OF THE POLICE IN CSA

We are well aware that a "friendly antagonism" sometimes exists between the police and probation-parole officers. Thus it seems ironic now in retrospect that the then Capt. William J. Bradley of the Los Angeles Police Department was one of the guiding lights in the early days of CSA. Deputy Chief Bradley retired from the Department in 1955.

Although CSA has a preponderance of workers in probation and parole, representatives from every conceivable phase of corrections are members. That CSA now has investigators from the District Attorney's office in regular attendance is a tribute to the untiring efforts of this group to break down the barriers, real or imagined, between departments and people considered on the "other side of the fence."

A TRUE SYMPOSIUM

CSA is actually a symposium in that dinner meetings are held with the relaxation and socializing that such affairs can bring. However when CSA meets with an attorney, a clinical psychologist, a judge, and parole officer present, a discussion of the complexity of certain issues creates some rather heated verbal jousting.

CSA has long attempted to explore the necessity for and the results obtained by the use of psychiatrists in the courts and the correctional process. Although psychiatry and psychology have become very important disciplines and accepted by most in the correctional field, their results are sometimes measured in derogatory terms by police. This is understandable as police cannot possibly follow an offender through the myriad processes he must undergo when he is committed to prison. It is the hope of CSA that some of the difficulties inherent may be communicated between these widely separated sentinels—the police and psychiatrists.

THE FORUM

Holding an annual Forum open to the public each year, CSA has clarified many such issues. Such a forum was held at Los Angeles State College in June, 1957. This year a panel was convened to discuss the topic: "Psychiatry and the Courts." The panel dealt mainly with the difficulties inherent in psychiatric reports or testimony concerning the sanity status of those offenders subject to the death penalty. The panel consisted of a psychiatrist, attorney, criminologist, the Director of a Mental Hospital, and a district attorney. The most significant result of the forum was acquainting the public with the outmoded criteria for judging insanity in our criminal courts.

CSA has drawn upon the most authoritative sources for its forums in the past. Negley Teeters[1] on one occasion tackled the problem of the necessity or lack of necessity for prisons. Other years have found such persons as Robert Lindner and David Dressler (formerly Chief Parole Officer of New York State) commanding the podium. In a very real sense, a paramount value of the CSA symposium has been an assessment of the motives, the rewards, and the positions of those who enter the correctional field on whatever level.

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[1] Negley Teeters, author of *New Horizons in Criminology* (with Harry Elmer Barnes).

EVALUATION AND SELF-IMPROVEMENT

Members of CSA have sincerely tried to re-evaluate themselves in relation to their jobs. Out of this, humility has been engendered. Because CSA sees itself as a symposium, not unlike those of an earlier Athenian day, the writer draws heavily upon those of the past for illustration. The most famous, of course, were those conducted by Socrates. Our modern thinking continually turns to pages of the past. In one session, Socrates is heard saying:

> He only blames justice who, owing to some cowardice or age or weakness, has not the power of being unjust. And this is proved by the fact that when he obtains the power, he immediately becomes unjust as far as he can be.

Those of us in law enforcement and corrections must continually be aware of the authority we possess. We must continually look for the signs which indicate we are being unjust in our dealings with offenders; that such injustice may stem purely and simply from our position to mete out penalties. In dealing with the public we become increasingly aware of the attitude that positions of power prompt injustice. CSA is alert to a responsibility to overcome this feeling if possible.

TOWARD PROGRESSIVE LEGISLATION

On a less personal basis, CSA attempts to secure broad bases for justice by studying all of the bills proposed in each legislative session in California dealing with corrections. A delegate is sent to the committee hearings to represent CSA in debating the worth or harm of these bills. Those endorsed by CSA are pressed; those believed to be harmful are vigorously opposed.

CSA's influence in these matters is no more nor less than those of any other group with the right to be heard. Perhaps CSA's results are obtained because of the vast cross-section of agencies represented and positions held by its members. That CSA has attracted this calibre of persons is one of its abiding achievements. Two CSA members are also members of the Attorney General's Advisory Committee on Crime Prevention. One is a Director of Training for the Los Angeles Probation Department. One is a member of the Professional Development Committee of California Probation and Parole Association. Dr. Samuel H. Jameson[2] teaches at the University of Southern California. Another is State Membership Chairman of CPPA. A particularly unique position of one of the members is the supervision of the "high power" tank in Los Angeles County Jail.

PROJECTS

We are often asked "just what do you do, specifically, except talk." Probation-parole officers, allied as they are to the philosophy of social work, are subject to considerable criticism as a profession of talk. What constitutes "doing something" is to CSA quite different than "doing something" is to the civil engineer. We deal primarily in ideas for the improvement of correctional and law enforcement services. We want to know what methods can be innovated to make an offender a law-abiding citizen.

A source of great pride to CSA along this line, and specifically, has been *Character Underwriters*. There is not a single level in the correctional process which is not cognizant of the difficulties met by the returning ex-convict or any person returning from a correctional institution. Any officer on the beat is aware that the ex-con is a potential menace and is suspect. He sympathizes with his non-acceptance by the community and his difficulty in obtaining a job. For these reasons he knows that the ex-con may soon return to forays in crime. One of the reasons is the inability to be bonded.

CSA, in 1952, established a committee to study this problem of bonding parolees. Under the able direction of Dr. Marcel Frym,[3] Mr. Ed Cunningham, and Mr. Harold Leader, *Character Underwriters* has been incor-

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[2] See POLICE, May-June, 1957, "The Policeman's Non-official Role in Combating Gangs and Juvenile Delinquency," by Dr. Samuel H. Jameson.

[3] See POLICE, May-June, 1957, "Character Underwriters" by Dr. Marcel Frym.

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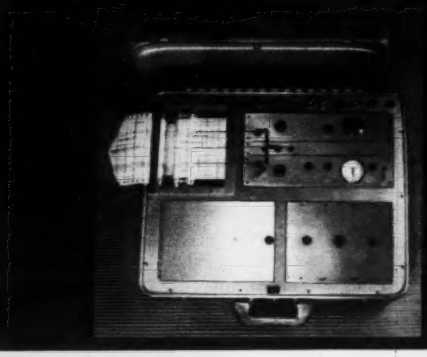

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porated, raised funds, has begun research, and is now a going concern, blazing trails in this hitherto uncharted area. In Southern California, at least, the problem of bonding parolees may soon be one more hurdle overcome in the progress of corrections. It is not mere happenstance that *Character Underwriters* received the greatest newspaper coverage for their workshop at the Congress of Corrections held at the Statler Hotel, Los Angeles, in 1956.

CSA TAKES A STAND

CSA is never reluctant to take stands pro or con on vital issues affecting the field. Some of these issues shaping up in the future are the renewed efforts to secure a moratorium on death penalties in California and the trend toward more severe penalties for narcotics offenders. Every legislative session in California since 1872 has seen some law passed which dealt with narcotics.[4]

CSA will bring to bear on these issues the extensive experience and knowledge of its members who can foresee the effects or results of such legislation. Another issue with which we are concerned is the movement toward lowering the age limit of jurisdiction of the Juvenile Court to 16 in California.

[4] Kendall J. Jenkins: Old and New Dimensions of Narcotics, *Calif. Youth Authority Quarterly*, Winter, 1955, p. 20.

A typical meeting of Correctional Service Associates (Photo courtesy of the Public Information Section, LAPD).

AN INTERIM REPORT

After a decade of activity we feel that we are in a position to say that CSA has been a success. Although new officers are elected each year there has been an aura of permanency in the membership. Unavoidably, some members have left a void by their departure. An example is Dave Gerecht who left the California Institution for Men at Chino, California to assume duties as Associate Warden of the State Prison at Walla Walla, Washington.

We have felt that annual conferences or meetings of exclusive and specialized associations do not create a broad basis of membership or provide continuity. CSA attempts to meet this problem by opening its doors to *all* who work in any phase of corrections or who work with offenders, directly, in any capacity.

This is, indeed, only an interim report, as CSA continues forward and the horizons are unlimited. We believe that CSA provides a meeting ground for true professionals dedicated to a humanitarian, but scientific approach to the treatment and rehabilitation of offenders. We come from a variety of disciplines but with a singleness of purpose.[5]

CSA encourages other areas to form chapters and affiliate with us to provide a climate for progressive thinking to combat America's most serious domestic problem—crime and delinquency. ★★★

[5] Kendall J. Jenkins: The Professional, *Calif. Youth Authority Quarterly*, Vol. 10, No. 2., Summer, 1957, p. 30.

WATCH WEEKENDS

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☐ **STATISTICS ESSENTIAL FOR POLICE EFFICIENCY** by **John I. Griffin.** Shows how the police function can be carried out more efficiently with the application of modern statistical methods. *To be published summer 1958*

☐ **CRIME AND THE SEXUAL PSYCHOPATH** by **J. Paul de River.** A clinical and psychological study of the sexual psychopath and his overt behavior. *To be published summer 1958*

☐ **EVIDENTIAL DOCUMENTS** by **James V. P. Conway.** A valuable discussion of the investigative philosophy and techniques which are vital to successful solution of cases involving document problems. *To be published fall 1958*

☐ **FIELD INTERROGATION** by **Allen P. Bristow.** A description of methods and techniques used to select subjects for field interrogation, to observe and recognize criminal traits, and to evaluate documents of identification. *To be published summer 1958*

☐ **ACADEMY LECTURES ON LIE DETECTION** compiled and edited by **V. A. Leonard.** Features new ideas, procedures, and methods which enable the polygraph examiner to improve his skills and proficiency in the use of polygraph techniques. *Volume II pub. '58, 168pp., Cloth, $5.75.* **Volume I also available ($3.75).**

☐ **DAILY TRAINING BULLETIN: Volume II. Los Angeles Police Department.** W. H. Parker, Chief of Police. A permanent reference to enable officers to prepare for advancement by assisting them in knowing, understanding and applying approved policies, rules, procedures, and techniques. *Pub. '58, 304 pp. (7 x 10), 232 il., Cloth, $8.50.* **Volume I also available ($7.50).**

☐ **SOURCEBOOK ON PROBATION, PAROLE, AND PARDONS** by **Charles L. Newman.** Brings together an outstanding array of authors from authoritative sources with the best published material in the areas of probation, parole, and pardons. *Pub. '58, 348 pp., Cloth, $7.50*

☐ **POLICE PERSONNEL MANAGEMENT** by **A. C. Germann.** Suggests in clear and simple language how police personnel management can be made effective, and its contents are applicable to all law enforcement organizations regardless of size. *Pub. '58, 260 pp., 2 il., Cloth, $6.75*

☐ **AN INTRODUCTION TO TOOL MARKS, FIREARMS AND THE STRIAGRAPH** by **John E. Davis.** Presents for the first time in book form a consideration of microcontour analysis in criminalistics with emphasis upon the striagraph, and a discussion of the potential value of many identification features revealed through its application. *Pub. '58, 302 pp., 145 il., (Police Science Series), Cloth, $8.50*

☐ **POLICE PLANNING (2nd Ed.)** by **O. W. Wilson.** Guides the police planner whether it be to decide how many policemen to send to arrest a burglar or routing traffic in downtown New York City. *Pub. '58, 564 pp., 11 il., Cloth, $8.75*

☐ **EVIDENCE FOR THE PATROLMAN** by **Floyd N. Heffron.** Written to supply the patrolman with a good working knowledge of the most acceptable methods of handling evidence and providing for its proper preservation and examination. *Pub. '58, 192 pp., 16 il., (Police Science Series), Cloth, $5.75*

☐ **PSYCHIATRY AND THE CRIMINAL** by **John M. Macdonald.** A guide to psychiatric examinations for the criminal courts. Spans every aspect of criminal forensic psychiatry. *Pub. '58, 244 pp., Cloth, $5.50*

CHARLES C THOMAS · PUBLISHER

301-327 East Lawrence Avenue

Springfield, Illinois

STATISTICS FOR POLICE EFFICIENCY

Punch Card Personnel Records System in the New York City Police Department

By Prof. John I. Griffin

THE development of an efficient personnel records system in a department of 24,000 uniformed personnel presents a major problem in terms of records design, processing and information output. Such a system should serve the department in two major ways, first as a guide to choosing persons for specific assignments, both long term and emergency, and second as a source for statistical information about the characteristics of departmental personnel which may suggest areas of strength or weakness.

An intensive study of this problem was initiated by Commissioner Stephen P. Kennedy in October 1956 and placed under the direction of Mr. Alexander Aldrich, Secretary of the Department. Out of this study emerged the Personnel Records Unit, which began operations on July 1, 1957. Experience with records systems in other police departments, among which St. Louis and Cleveland are outstanding, provided a useful guide in planning the New York program.

The first element in the system is the source document which is filled out by each member of the department. This form is self-coding, as may be seen from the portion reproduced in this article. In addition to the routine questions on age, rank and the like, the source document lists more than 660 sub-categories. The largest listing of categories is found under skills, where about 270 are listed running the gamut of human abilities, from bee culture to subway maintenance. The police officer indicates on the source document which skills he possesses. In addition he can mark any of 51 languages with which he is familiar, and any of 42 areas of the world in respect to which he has specialized regional knowledge. In a police department with almost 19,000 veterans of the armed services in its ranks, there are few languages or parts of the world unknown to them.

The source document also calls for information on assignments within the department in which the officer has had substantial experience, licenses which he may possess, specialized police training of an in-service and collegiate type, high school training and college education. Other information provided by the officer relates to his military experience, sports and games in which he excels and hobbies in which he has had experience. A supplemental source document is used for men whose academic average, IQ and blood types are known. From these source documents two punch cards are prepared, which can be processed in the IBM machine installation found in the Statistical and Records Bureau. The first card includes name, rank, command, residence precinct, year of birth, year of appointment, tax registry number, skills, languages, marital status and blood type. The second card contains additional information, including in-service assignment, specialized regional knowledge, licenses, specialized police training, education, miliary service, sports and games, hobbies, appearance-build, IQ and general average in recruit training.

These cards are kept up to date by requiring each member of the department to enter changes of information upon his personnel record each April and September and routine changes are handled automatically by routing the notices of such changes through the personnel records unit. In order to utilize the information contained on the punch cards effectively, it is necessary to have a system of evaluating the information. Persons claiming specific skills are tested in order to determine the accuracy of the claim and also relative degrees of the skill as between several men. Skills that do not lend themselves to ready test are documented by detailed information kept in the personnel files.

The centering in one unit of a complete inventory of personnel resources is a new step forward for the New York Department. It has yielded some interesting statistical data, such as the fact that the modal age of Captains is 52 years, Lieutenants and Sergeants is 40 years, Patrolmen is 29 years and for Policewomen it is 32 years. About 27% of the department are six-footers, of whom 1,200 are described as "tall-heavy." The cards have not yet been used to run cross-tabulations between frequency or occurrence of names (Smith 142 cases) and the distribution of height and the like, nor between the 12 Tracys (but no Dick) and assignments to the detective division, but the possibilities are fascinating and almost without limit.

The system has been used in its

Address: Prof. John I. Griffin, The City College, Bernard M. Baruch School of Business, 17 Lexington Avenue, New York 10, New York.

first six months of operation to process a large number of requests for skilled personnel of various types. Included among the successfully met requirements were calls for patrolmen with acting experience, electricians, photographers, helicopter pilots and, not least of all, eight patrolmen 6′ 3″ or above, to serve as escorts for Queen Elizabeth on the occasion of her recent visit to New York City. A number of emergency situations have been met through a rapid processing of the cards. Thus, a request for a Hungarian-speaking patrolman to serve as an interpreter, resulted in the assignment of an officer with suitable skills five minutes after the request was received. It is clear that the resources of this mechanized personnel records system will be tapped increasingly in the coming years in identify officers whose special skills, experience and education, can contribute to the successful accomplishment of the police mission. In addition, an important consequence of fitting the right man to the right job is to be found in a conviction on the part of members of the department that their special talents will not be unknown.

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AT RANDOM . . .

Statistical Methods and the Examination of Questioned Documents

The report of the Royal Canadian Mounted Police seminar on "Examination of Questioned Documents" (1956) contains an article illustrating a possible approach in the application of statistics to this area of police work. Constables A. F. Wrenshall and D. M. Duke of the Fradulent Checque Section, R.C.M.P., Ottawa, point out that since document examiners deal with phenomena which vary incessantly and are not under the control of the examiner, statistical methods should prove an effective tool. It is necessary to first convert the observations into numerical quantities by an objective measurement of a feature being examined. An experiment is described in which the height of handwritten lower case letters "h" of two different authors were measured using 100 randomly selected samples from the writings of the two authors. Frequency tables were prepared for the two distributions of letter "h" heights.

The measurements analyzed by the authors show variation, the characteristics of which are measured statistically. By measuring the range and dispersion of the handwriting feature being studied, it is possible to demonstrate its persistence. Limits can be stated for the normal or expected variation of the characteristic, and the probability that any given letter "h"' written by an author under comparable conditions would fall outside the limits can be determined. The two statistical problems involved in this type of work are "What is the probability that a feature in a questioned writing would be repeated in a given sample of specimen handwriting by the same author, and how large should a sample of specimen handwriting be in order to permit the examiner to state an unqualified opinion?" The first problem is easily solved, the second is not. Much experience is needed before these methods are demonstrated to be reliable and valid.

Uniform Crime Reporting Study

Dr. Peter P. Lejins, Professor of Sociology at the University of Maryland, is serving as chairman of a consultant committee on Uniform Crime Reporting, appointed recently by the Federal Bureau of Investigation. The other members of the committee are Dr. Charlton F. Chute, Director of the Institute of Public Administration, New York, and Chief Stanley R. Schrotel of Cincinnati. This committee has the task of making a study of all aspects of the Uniform Crime Reporting program.

Keysort Records System

An interesting application of Keysort cards is in the modernized records system of the Stamford, Connecticut, Police Department. These cards are notched around the margins and can be sorted mechanically by a Keysort Selector. Such a system is suitable when the volume of records does not justify punch card methods. The Stamford system, as described by Mr. Leo A. McPherson in the February 1958 issue of *The Police Chief*, involves the use of more than 700 numerical codes describing crimes, possible police action and services, accident and aided cases. Duplicate Arrest Card, Aided Card, Accident Card, Modus Operandi Card, Gun and Personal Property Card, are all in the Keysort form. The basic information is typed on the card itself and the notched edges are used for the purpose of sorting out cards having the desired characteristics. On the Selector a pin can be set for each factor involved in the sorting process, such as age, sex, complexion and the like. This type of record system is inexpensive to install and can be used by any police officer after short training. As such the records system can operate around the clock even in a department of moderate size, such as Stamford with 185 men of whom six are assigned to the records room.

P.R.U. 1 (3-57)

SOURCE DOCUMENT FOR PERSONNEL DATA CARD

POLICE DEPARTMENT
CITY OF NEW YORK

PAGE 1

DATE PREPARED:

INSTRUCTIONS: *Prepare this form in duplicate. Original is forwarded to Chief Inspector's Office, Room 109; duplicate is filed in command to which individual is permanently assigned. All entries are to be made in either black or blue-black ink. Information that must be written on the form will be printed legibly in block letters.* **Carefully encircle the number preceding an item where directed to indicate pertinent information in this manner.** *The commanding officer of member of force will sign the form to acknowledge that he has reviewed the report for completeness after he has entered information required under captions "Tax Registry Number" and "Command" on Page 1 and "Appearance—Build" on Page 4.*

1. TAX REGISTRY NUMBER (To be entered by C.O.)

7. YEAR OF BIRTH (Enter last two digits of year, e.g., for 1928 enter 28)

9. EFFECTIVE YEAR OF APPOINTMENT (Enter last two digits of year from which you compute your retirement date)

CIVIL SERVICE RANK (Encircle one number)
11. 1. Patrolman
2. Policewoman
3. Sergeant
4. Lieutenant
5. Captain
6. Surgeon
7. Asst. Supt. of Telegraph
8. Veterinarian

DESIGNATED RANK OR CLASSIFICATION (If applicable, encircle appropriate number.)
12. 1. Detective 3rd Grade
2. Detective 2nd Grade
3. Detective 1st Grade
4. Supervisor of Detective Squad or Acting Lieutenant
5. Commander of Detective Squad or Acting Captain
6. Special Assignment (Additional Compensation)
7. Deputy Inspector
8. Inspector
9. Deputy Chief Inspector
0. Assistant Chief Inspector
X. Other (Specify):

13. LAST NAME **FIRST NAME** **INITIAL**

COMMAND

31. (Code to be entered by C.O.)

34. RESIDENCE PRECINCT

CURRENT SOCIAL CONDITION *(Encircle one number)*
37. 1. Single
2. Married
3. Widowed
4. Divorced
5. Separated

SKILLS *(Indicate each skill you possess, other than hobbies, by encircling the appropriate number(s). If you possess an unlisted specific skill which falls within one of the areas, such as "Transportation," encircle the number opposite "Other Specifics" in that area, and specify the skill in the space provided. If your experience does not constitute a specific skill but falls within one of the areas listed, encircle the number opposite "General" in that area.)*

Clerical
38. 0. Addressograph Operator
1. Bookkeeper
2. Business Machine Operator
3. Court Stenography
4. Duplicating Machine Operator
5. Key Punch Operator
6. Multilith Operator
7. Steno—Shorthand
8. Stenotypist
9. Stockkeeper

39. 0. Tabulating Machine Operator
1. Typist
2. Varitype Operator

39. 8. General Clerical
9. Other Specifics: _____ _____

Equipment Operation and Maintenance
40. 0. Boats, Maintenance
1. Burglar Alarm Maintenance
2. Caterpillar Tractor Operator
3. Crane Operator
4. Derrick Operator
5. Elevator Operator
6. Linotype Operator
7. Lumber Mill Machine Operator
8. Machinist
9. Motorcycle Mechanic

44. 0. Equipment Maintenance & Operation—General
1. Other Specifics: _____ _____

Management & Supervision
44. 2. Credit Supervisor
3. Machine Shop Supervisor
4. Mechanic Supervisor
5. Office Manager
6. Office Supervisor
7. Sales Supervisor

15. 2. Management & Supervision—General
3. Other Specifics: _____ _____

Laboratory Technicians
45. 4. Bacteriology
5. Botany
6. Chemistry
7. Dentistry
8. Geology
9. Metallurgy

46. 0. Pharmacy
1. Photography
2. Serology
3. Spectrographic Analysis

49. 0. General Sales
1. Grocery Sales
2. Insurance Sales
3. Liquor Sales
4. Purchasing
5. Real Estate Sales
6. Service Station

30. 1. Commercial—General
2. Other Specifics: _____ _____

Transportation
50. 3. Ambulance Driver
4. Airplane Pilot
5. Boat Navigator
6. Boat Pilot
7. Brakeman
8. Bus Driver
9. Cab Driver

51. 0. Conductor—Train or Subway
1. Diesel Equipment Operator
2. Farm Implement Operator
3. Helicopter Pilot
4. Locomotive Engineer
5. Locomotive Fireman
6. Motorboat Operator
7. Motorcycle Operator
8. Subway Motorman
9. Switchman

52. 0. Teamster
1. Truck Driver
2. Truck Trailer Driver

Social Work & Allied Activities
54. 3. General Youth Supervision
4. Organized Camp Activities
5. Probation Officer
6. Social Agency Experience

55. 0. Other Specifics: _____ _____

Communications
55. 1. Radio Operator
2. Radio Technician
3. Telegraph Operator
4. Teletype Operator
5. Telephone Switchboard Operator
6. Wireless Operator

56. 0. Other Specifics: _____ _____

Construction Work & Related Trades
56. 1. Bricklaying
2. Carpentry
3. Cement, Concrete Work & Masonry
4. Plastering
5. Plumbing

Part of Source Document—Personnel Data Card. (Courtesy of the Police Department, City of New York.) ★★★

CITIES DEVELOP JOINT POLICE TRAINING

The Monterey Bay division of the League of California Cities has approved a plan for a police recruit training school that will serve about a dozen small cities in the area, none of which has the budget or personnel to send recruits to more extensive courses available. The Division has also invited the sheriffs' offices of the counties in the area to participate.

The school, which will be located at Ft. Ord, will consist of five eight-hour days of instruction. (Reprinted from *Personnel News*, March 1958.)

IACP ADOPTS CODE OF ETHICS

The "Law Enforcement Code of Ethics" as originally developed and adopted by the California Peace Officers' Association was adopted by resolution by the International Association of Chiefs of Police at the International organization's 64th Annual Conference in Honolulu. Adopted also were Canons of Ethics to supplement the Code.

NEWS and ANNOUNCEMENTS

VILLAGE OF ARLINGTON HEIGHTS APPOINTS NEW POLICE CHIEF

Mr. F. Robert Buechner, Village Manager of Arlington Heights, Illinois, announced the appointment of Chief L. W. Calderwood, a former Captain in the Evanston, Illinois Police Department.

FLORIDA PLANS ARSON SEMINAR

The Annual Florida Seminar in Arson Investigation and Detection will be held at St. Petersburg, Florida on August 4-8, 1958. In past years they have been held in Gainesville. For details contact W. H. Barnett, Supt., Florida State Fire College, P. O. Box 785, Ocala, Florida.

OPENING FOR CHIEF OF POLICE

The City of Okmulgee, Okla. is seeking the services of a qualified man to serve as Chief of Police. Okmulgee is in the heart of the vacation land in Eastern Oklahoma. Population is approximately 20,000; there are three major industries; Police Department has 17 police officers, five patrol cars with two-way radios, and a full-time dispatch office. Address applications to: Mr. James W. Harrison, City Manager, City Hall, Okmulgee, Okla.

NORTHWESTERN UNIVERSITY SCHOOL OF LAW TO HOLD 13TH ANNUAL SHORT COURSE

Northwestern University's school of law will hold its 13th annual short course for prosecuting attorneys Aug. 4-8 in the law school building on the Chicago campus.

Attendance is restricted to attorneys holding federal, state, or municipal office as prosecutor or assistant prosecutor.

Prosecutors will be briefed on the preparing of a case for trial and trial techniques such as the selection of jurors and the examination and cross-examination of witnesses. Other topics include effective use of medical evidence, firearms identification, comparative micrography, lie-detection and criminal interrogation, microanalysis, examination of questioned documents, and self incrimination privilege.

Field trips will be made to the lie-detection firm of John E. Reid and Associates and to the Chicago police scientific crime detection laboratory.

Prof. Fred E. Inbau, course director, says the aims of the program are:

—To offer instruction regarding the preparation and trial of criminal cases.

—To acquaint prosecutors with the possibilities of scientific methods in criminal investigations and prosecutions.

—To provide a forum for the mutual exchange of information by attending prosecutors.

Registration fee for the course is $100 and is payable Aug. 4. Expenses of most attendants of previous courses have been defrayed by the counties or offices they represent.

Additional information can be obtained from Inbau at the Northwestern University School of Law, 357 E. Chicago Ave., Chicago 11, Ill.

FAUROT ANNOUNCES APPOINTMENT

Faurot, Inc. of 299 Broadway, New York 7, New York, in its continuing endeavor to serve Law Enforcement Agencies throughout the world has announced the addition to their staff as Technical Director, Mr. James J. Falihee. His twenty-one years of experience with the New York City Police Department as Supervisor of their Crime Laboratory, working on all phases of identification problems, will be of important value to all those interested in the advancement of the science of Crime Detection and Identification. Education: Bachelor of Science, Manhattan College, New York, N. Y., 1932; Master's Degree, Columbia University, New York, N. Y., 1933; Law Studies, St. John's University. Assigned to the New York Police Laboratory in 1937 as their first Detective Chemist, Mr. James J. Falihee was instrumental in designing and equipping this Laboratory. He has conducted chemical analysis and given scientific assistance and testimony in many outstanding cases before all Courts and Grand Juries having criminal jurisdiction in New York.

Mr. Falihee has lectured in Civil Defense Training Schools on Chemical Warfare, Gas Warfare and High Explosives and Incendiary Bombs. Prior to his recent retirement, Mr. Falihee acted as Commanding Officer in the New York City Police Department Bomb Squad.

UNIVERSITY OF MISSOURI TO HOLD SHORT COURSE

The Adult Educational and Extension Service of the University of Missouri is planning to conduct a law enforcement short course on the campus at Columbia, Missouri, July 9-11, 1958. This short course is primarily designed for officers with less than a year's experience, a refresher course for in service officers and/or for officers with no previous professional training.

Such subjects as "Traffic Law Enforcement and Motor Vehicle Accident Investigation," "Laws Concerning and Mechanics of Arrests, Searches, and Seizures," "Police Public Relations," "Automobile Theft Investigation," "Police Radio Communications," and "Correct Procedures to Use in Stopping and Searching Automobiles" will be presented during this short course.

Address communications to: University of Missouri, Adult Education and Extension Service, 23 Jesse Hall, Columbia, Missouri.

NEW CARTER FREQUENCY CHANGER PRODUCES 50 OR 60 CYCLE AC FROM ANY INPUT FREQUENCY

Latest addition to the Carter Motor Company line, with early models now in the field for testing, is the new Change-A-Cycle Frequency Changer.

SUMMARY OF THE ALCOHOL FACTOR IN FATAL ACCIDENTS STATE OF DELAWARE (EXCLUDING WILMINGTON) 1956

Total number of fatal accidents	75
Number of accidents involving a drinking driver	38
Per cent of accidents involving a drinking driver	51%
Number of drivers involved in fatal accidents	111
Number of drinking drivers involved in fatal accidents	40
Per cent of drivers who had been drinking	36%
Number of pedestrian fatal accidents	17
Number of pedestrian fatalities	17
Number of drinking pedestrians	10
(Seven non-drinkers included five children)	
Per cent of adult pedestrians who had been drinking	83%
Total number of fatal accidents	75
Number of accidents involving drinking drivers or drinking pedestrians	44
Per cent of accidents involving drinking drivers or drinking pedestrians	59%
Total number of drivers and pedestrians	128
Total number of drinking drivers and drinking pedestrians	50
Per cent of drivers and pedestrians who had been drinking	39%

Degree of intoxication (% of blood alcohol by weight)

Trace

.019%	.139%	.190%	.205%
.019%	.150%	.191%	.212%
.082%	.161%	.194%	.214%
.085% (delayed)	.165%	.196%	.232%
.101%	.166%	.196%	.247%
.119%	.166%	.199%	.267%
	.167% (delayed)	.199%	
.072%	.181%	.200%	
.122%	.183%	.201%	
.128%	.189%	.202%	

Four operators had been drinking but no test was given

1. One refused test
2. One critically injured
3. One apprehended five hours later: had also been drinking in the meantime
4. One under the influence—no test given

Sixty-two per cent of the drinking drivers were at .15% or above

Pedestrians:

.027%	.190%
.097%	.231%
.159%	.232%
.168%	.266%
.	.310%

One pedestrian had been drinking—no test given due to injuries (delayed death)

Seventy per cent of the drinking pedestrians were at .15% or above.

It has been under development for several months, sparked by an industrial firm's coming to Carter engineers with the problem of operating standard 60 cycle machines from 25 cycle AC in a large city.

The new Carter Change-A-Cycle operates on a principle entirely different from conventional motor-generator devices. The AC input is rectified to DC, then fed to a special Carter DC to AC converter, having a 60 cycle or 50 cycle output, as specified. A rheostat provides a ±10 per cent adjustment for cycle variation.

Full details may be had by writing to Ray Simon, Chief Engineer, Carter Motor Company, 2769A W. George St., Chicago 19, Illinois.

GRAFLEX INTRODUCES AC CONVERTER, NICKEL-CADMIUM BATTERY FOR STROBOFLASH II, III, IV UNITS

An AC converter with rechargeable nickel-cadmium battery for Stroboflash II, III, and IV electronic flash units was introduced by Graflex, Inc., Rochester, N. Y.

The new power unit, the Nicad-AC Converter, includes a built-in battery charger. As part of the Stroboflash II, III, or IV, it can be used in three different ways: as a battery-operated portable unit, as a recharging unit for the battery, or as an AC unit without the battery.

The combination provides versatility, economy, and longevity in power-pack usage for new and present owners of the Stroboflash units, according to Graflex.

Because it is not subject to deterioration when not in use, the nickel-cadmium battery has an indefinite shelf-life, Graflex says. It has a life-expectancy of fifteen years, can be stored fully or partially charged without harm. Overcharging, reverse-charging, or short circuits will not damage it, according to Graflex. It can take more than 1,000 complete recharges, which means the Stroboflash IV, equipped with the Nicad-AC Converter (which will produce about 80 flashes at full power) is now good for 80,000 flashes with the new battery.

Charging is accomplished overnight (twelve hours) by plugging into any AC outlet.

The unit weighs only a little over four pounds.

It can be bought as part of a complete unit with Stroboflash II or IV or as a separate pack for use with presently-owned Stroboflash II, III, or IV units. Only minor service department modification is needed for the latter usage. It is also available without the nickel-cadmium battery for use with AC power in the studio, home, or industrial plant.

ALUMINUM PLUMBING FIXTURE CORP. ADDS WALL-HUNG MODELS

Off-the-floor wall-hung models have been added to the Super Secur Ware unbreakable aluminum line of plumbing fixtures. To permit more complete

toilet room cleanliness, the wall-hung model allows mopping from wall to wall, under fixtures.

Aluminum Plumbing Fixtures are furnished in "as cast" aluminum coating or in rugged, non-chip Super Securline-"S" coating in white or pastel colors.

The need in institutions for a plumbing fixture specifically designed to withstand a great deal of punishment is well known. Breakage problems and replacement costs are eliminated with Cast Aluminum Plumbing Fixtures.

Crack-proof, damage-proof, tamper-proof, practically impervious to heat and cold. Aluminum Plumbing Fixtures can be quick frozen 40 degrees below zero filled with water, and will not crack. They have a tensile strength of 19-23,000 PSI . . . can be dropped from a 3-story building without being smashed. They have terrific strength against impact.

POLICE OFFICIALS, BURGLARY UNDERWRITERS VIEW SAFECRACKING DEMONSTRATION

A team of safecrackers demonstrated their art with 200 police officials looking on but not a single arrest was made.

The men were "legal safecrackers" putting on a seminar for law enforcement officers and burglary insurance underwriters at the New York office of the Mosler Safe Company.

Edwin F. Toepfer, Mosler's Milwaukee dealer, demonstrated all known methods of safe attack including burning, drilling, cutting, punching, and manipulation. Toepfer outlined a remedy for each method of attack.

Purpose of the "anti-crime clinic" was to show the vulnerability of inadequate safes and locks of all kinds.

John Mosler, executive vice president of the 110-year-old firm, told the audience that most big cash hauls have been taken from safes designed to protect records.

An experienced criminal, he said, will usually shy away from a modern Mosler round door money safe since he knows that opening it would probably be impossible. The experienced crook always looks for easy pickings, he added.

Toepfer showed tricks of the trade which enable an investigator to determine whether or not an apparent safecracking was done by amateurs or professionals, or was the result of an inside job make to look like an outsider's attempt.

Following the clinic, a high police officer commented that the demonstrations "opened our eyes to things ignored in the past in making our investigations."

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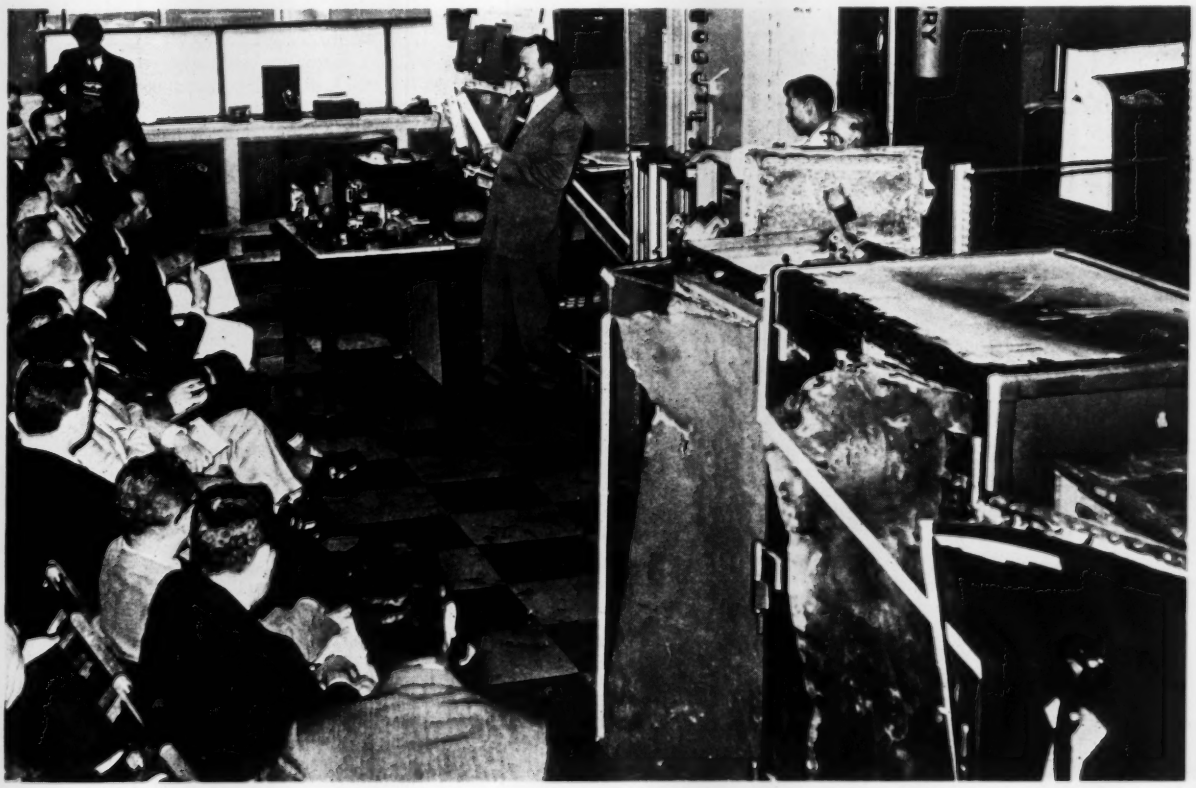
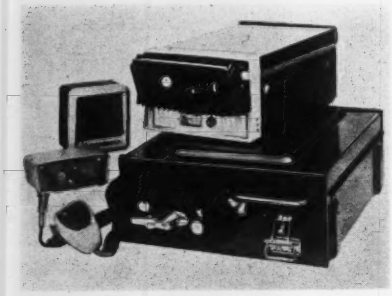


FIRST 100 WATT MOBILE RADIO WITH TRANSISTORIZED POWER SUPPLY

New mobile 2-way radios with completely transistorized power supplies introduced by Motorola include 50 and 100 watt units in the 25-54 MC. band. A 100 watt model (lower unit), the



most powerful mobile radio in use, is now available for the first time with completely transistorized power supply.

Transistorization in the 50 watt "T-Power" radio (top unit) has enabled reduction in size to a 10 inch housing. Formerly, this powerful a radio was available only in a 15 inch housing.

Also introduced in the expanded Motorola "T-Power" line is a 60 watt unit in the 144-174 MC. band. Motorola put the first "T-Power" radiophones, which were 25 watt units, on the market in mid 1957.

MR. CITIZEN RECEIVES CITATION

The St. Louis Crime Commission annual award for 1957 to a citizen for outstanding service to law enforcement authorities was presented January 7 to Robert E. Fagen, 4136 Maffit Ave., it was announced by Arthur B. Shepley, Jr., president.

The award, consisting of a plaque and an inscribed watch, was given to Mr. Fagen at special presentation ceremonies in the office of Mr. Shepley.

The citation on the plaque reads as follows: "St. Louis Crime Commission annual award for 1957 to a citizen for outstanding service to law enforcement authorities is presented to Robert E. Fagen whose personal heroism and dedication to civic duty resulted in the solution of a series of serious crimes, and who is deserving of public gratitude and recognition."

An award committee selected Mr. Fagen from a list of possible candidates for the honor. Its selection was based on Mr. Fagen's pursuit and aid in the capture of a bandit who held up the New Age Federal Savings and Loan Association of which he is manager.

Shortly before noon on October 28, the bandit held up the loan association and fled in a car. Mr. Fagen pursued the bandit in his automobile. Eventually, the robber had an accident with his car and commandeered a taxicab to continue his flight. Mr. Fagen continued his pursuit, and attracted the attention of a police officer who joined the chase. The officer succeeded in stopping the cab and arrested the bandit.

The bandit was identified in a total of five separate savings and loan association robberies to which he pleaded guilty. He is now serving 25 years in a federal penitentiary.

The commission established this award in December of last year to promote more citizen cooperation in combatting crime.

At the time the award was established, Mr. Shepley said, "The basic concept of an annual award is the conviction that maximum police effectiveness can never be attained without the loyal support and cooperation of the average citizen. If this award can make the public a little bit more aware of that fact while at the same time giving publice recognition to one who has demonstrated it in a practical and outstanding manner, then the award will have served its purpose."

Others present at the ceremonies were: Col. Joseph E. Casey, Acting Chief of the St. Louis Metropolitan Police Dept.; Raymond W. Hensley, Superintendent of St. Louis County Police; Kirkwood Police Chief Kenneth Peek, President of the St. Louis County Law Enforcement Officers Association; and Calvin B. Howard, Special Agent in Charge, St. Louis Office of the Federal Bureau of Investigation.

NEW PERFORMANCE RATING SYSTEM

Cincinnati has developed a new performance rating system to replace a system that had been used for more than 25 years. The new rating system is designed to improve employee performance and morale by pointing out and describing an employee's assets and deficiencies. The form is printed on a three-copy, snap-out carbon set and consists of 11 factors which can be rated on a five-point scale—unsatisfactory, improvement needed, average, above average, and outstanding. A suggestion of how to improve must accompany an "improvement needed" rating, and specific reasons must be given for either an "outstanding" or an "unsatisfactory" rating. City employees will be rated annually, and rating periods will be staggered with each department choosing a convenient month to submit its reports. The same form will be used to rate new employees upon completion of the three-month probationary period. The rating will be done in all cases by the employee's immediate supervisor and reviewed by a supervisor at the next level. The city personnel department will conduct supervisory training sessions and review and tabulate the ratings.

POLICE TRAINING BULLETINS

The Arlington County, Virginia, Police Department has begun a continuous program of inservice training by issuing weekly police bulletins on such subjects as rules of evidence, methods of determining intoxication, methods of investigation, and police courtesy. The training bulletins are prepared by the safety-traffic bureau and are distributed to all members of the force at roll call. The policemen answer questions found at the end of the bulletins, and their answers are reviewed. The question system is not a test, and individual scores are not kept. However, the policemen are graded to determine the effectiveness of the program and to find areas where further training may be needed. The system has been in effect since October 22, 1957, and the results have been greater interest in police subjects and better job performance. The training program is in addition to an 11-week recruit school and the regular program of pistol qualification.

Beginning with the September issue, the subscription price of POLICE will be increased to $5.00 per year.

Simultaneously, the size of the Journal will be increased to 84 pages per issue.

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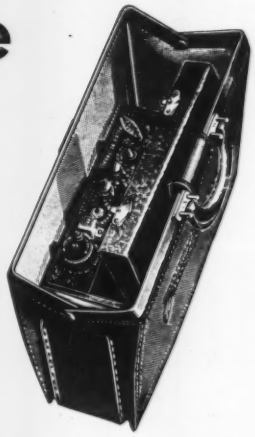

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